The Perspectives of EFL Teachers on the Integration of ICT into their Teaching Practices in the Context of Iranian Schools: An Activity Theory Perspective

By

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In the name of Allah,
the Most Beneficent,
the Most Merciful

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This study is dedicated to my late parents who never got to see this moment, and I wish to 'lower to them the wing of humbleness out of mercy and say: "my lord, be merciful to them, as they raised me since I was little"' (The Holy Quran, Isra: 24). It is also dedicated to my supervisor for his academic and pastoral support, to participants for their generous contribution, and my husband who was by my side and encouraged and supported me in this important time of my life.

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By the grace of God the thesis is completed. I would like to take this opportunity to express my deepest appreciation to all kind people who have contributed to the successful completion of this research.

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Declaration

This thesis is submitted to the University of Warwick in support of my application for the degree of Doctor of Philosophy. I certify that it has been composed by myself under the guidance of Professor David Wray as an original work, and has not been submitted in any previous application for any degree. During the completion of this thesis, the author has published parts of this thesis as follows:

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Abstract

Underpinned by a socio-cultural epistemology and utilising an interpretivist qualitative paradigm, this study aims to explore Iranian EFL teachers' perspectives on the integration of information and communication technology (ICT) into their teaching. Data collection was carried out during October-December 2013 held with 9 Iranian EFL teachers -five males, four females- from across 6 schools in Tehran. The focus was on the individual and contextual factors that had influenced and shaped the perceptions and practices of these teachers. Data was collected based on a total of 36 face-to-face individual semi- structured interviews that were guided by 27 observations of classroom practices. Thematic analysis of the data indicated that ICT uptake by participants was seriously hampered by several interacting and interrelated areas that influenced participants' perspectives and practices. These include inadequate technological infrastructures (in and out of schools' settings), poor or lack of technical support, teachers' insufficient expertise and self-efficacy related to technological pedagogical content knowledge (TPACK) as a result of inadequate continual professional development (CPD), nature of the national curriculum, assessment system, shortage of time, rules and regulations, and other human and contextual factors that will be discussed holistically as an activity system in this paper.

Abbreviations

Activity Theory (AT)

Communicative Language Teaching

English as a Foreign Language (EFL)

English Language Teaching (ELT)

Foreign Language Education (FLE)

Fundamental Reform Document of Education (FRDE)

Grammar Translation Method (GTM)

Information Communication Technology (ICT)

Second Language (L2)

Second Language Acquisition (SLA)

Sociocultural Theory (SCT)

Technological Pedagogical Content Knowledge (TPACK)

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CHAPTER 1. INTRODUCTION

1. 1. Background

English has gained worldwide importance as the international language of communication, commerce, technology, education, and scientific and academic dissemination (Enever & Moon, 2009). The global dominance of English language started with the Britain's colonial expansion and continued with the U.S. cultural, political and economic Imperialism (Braine, 2014; Graddol, 1998) has created an ever-increasing demand across the world to learn and teach English as the principal second or foreign language (Braine, 2014; Enever & Moon, 2009). In response to this demand, many countries have included English as an essential part of curriculum in their formal educational system (Nikolova, 2008). However, the ways in which governments view this spread, and their English language education policies and practices vary widely in different countries. Many factors such as philosophical, economic, logistic, and social-cultural considerations account for this (Kiany, Mirhosseini, & Navidinia, 2011). While in some countries, English forms an essential part in their economic and scientific progress and competitiveness, elsewhere it may be viewed more narrowly or even

become a source of controversy, especially concerning the socio-cultural or political impacts and how and when it should be introduced (Garton, Copland, & Burns, 2011). For example, with respect to Asian countries, in Philippines, Hong Kong, Sri Lanka, Singapore, and India English has been recognised, and is widely used as the official language in their everyday life (Braine, 2014). With different degrees of success, Japan, South Korea and China have recently considered reforms to introduce English as a compulsory subject as early as primary school and promote English cultural awareness to boost their economy (Clavel, 2014, 19 Jan). In order to meet the requirements of the 21st century, Oman, following some Arab Muslim Countries in the Persian Gulf region such as Bahrain, Qatar and the United Arab Emirates, has recently considered English as the medium of instruction in higher education (Al-Bakri, 2013); and while still having a centralised and controlled school curriculum, has moved English instruction to as early as grade 1 in primary school and extended classroom hours (Al-Issa, 2014; Al-Jardani, 2012).

Yet the globalisation and the privilege of English as an international language of communication has been a controversial topic, and raised concerns regarding local national cultures and identities (Piri & Ab Halim, 2011). In Iran, while English is recognised as a compulsory

subject in curriculum, there are concerns about the influence of the cultural and sociological ideologies surrounding English language.

In the literature, the arguments in rejection of the pre-dominance of English, mainly discuss the dominance of English in relation to colonialism and imperialism, and the negative impacts of the culture and identity surrounding the English language on local cultures (Phillipson, 2009). The underlying assumption is that the spread of English is a neo-colonial situation threatening the world's local cultural diversity. From this perspective, language is linked to the culture and ideology through which cultural and cognitive imperialism occur with English as a medium to deliver the American and Western culture and ideology creating a new-colonialism (Phillipson, 1992, 2009). According to this view, not only English, but also English pedagogy is imperialistic:

> *Linguistic imperialism can be regarded as a subcategory of cultural imperialism, along with media imperialism (e.g., the new agencies, the world information order), educational imperialism (the export of Western institutional norms, teacher training, textbooks, etc. ...) and scientific imperialism. (Phillipson, 2009, p.2)*

This view questions the appropriateness of English textbooks and other educational products that usually have been produced in the main

English speaking countries, and have almost always represented cultures of those countries. This also suggests that the theories and teaching methods that the countries in the circle export do not seem to match the diverse local contexts (Phillipson, 1992; Tomlinson, 2005). For example, Magnan (2008) in her critique of the Communicative Language Teaching (CLT) from a socio cultural perspective, states that this method is bound to be influenced by the American norms:

> *The emphasis on oral, transactional language anchored in an American perspective perpetuates the archetypal US norms of rugged individualism and personal stake. Indeed the association of CLT with western values of choice, independence, freedom and equality has led scholars to question its fit with some non-western cultures (p. 357).*

This suggests that while the values of choice, independence, freedom and equality might be inherited and admirable in other cultures as well, what is problematic is that the way these values are defined and practised in communicative language teaching is influenced by an American perspective to those values. It is fair to say that countries in the circle of the ELT market fail to consider English as a lingua franca for international communication, which is no longer the property of its native speakers, and take into consideration the educational and

sociocultural factors as well as the different settings of the diverse learners (Tomlinson, 2005). Consuming countries are picking products up and modelling the pre-packaged, one-size-fits-all methods of the ELT market with less adaptation (ibid).

A similar set of assumptions governs national foreign language education in Iran. The Iranian National Curriculum Document (2013) states that the underlying pedagogy of foreign language teaching and material development in Iranian schools should be communicative, however it advocates a cautious approach to selecting, developing and implementing English material.

As was discussed, while there might be commonalities, countries have not responded to the dominance of English and globalisation in a uniform manner. The main point to be made here is that not only are there divergent positions in relation to English education policy, these positioning are influenced and shaped by the specific political and socio-cultural conditions of the local context (Garton et al., 2011). It is in understanding the socio-political construct of the specific contexts that the foreign language or more specifically English language education can be understood. Thus, to situate the data within the context and to provide more informed interpretations, providing a brief overview of the historical, political and socio-cultural structure of the Iranian context, as a background to the foreign education system in Iran seems imperative.

1.1.1 Iranian education system at the school level

The Islamic revolution, which occurred in 1979 in Iran, was a political and religious upheaval under the spiritual leadership of the clerical figure –the late Ayatollah Khomeini- against the domination of the so called arrogant, colonizing, imperialistic Anglo-American powers, overthrew the Pahlavi monarchy, and founded the Islamic Republic of Iran.
The revolution brought about rapid and dramatic changes in many aspects of Iran's socio-cultural, political, and economic structure. Along with these wider societal transformations at all levels, and the ideological circumstances, the concept of an ideal citizen and human being was redefined. Education was highly emphasised, and came to be seen as a means to create an ideal Islamic society (Islamic Umma) with the Iranian nationalism underpinning it (Piri & Ab Halim, 2011).

Ever since, the Iranian government has implemented a number of Islamising movements designed to purge school curricula of western influence and to establish a system of education based on the Islamic philosophy of education with especial attention to '*strengthening the Islamic– Iranian style and etiquettes of life in all educational domains as a prevailing approach in designing, devising and the implementation process of curriculum development*' (Fundamental Reform Document of Education in IR of Iran (FRDE), 2011, Strategy 2-5, p.33). Teachers are

supposed to be '*faithful to God and Islamic ethics, right doers, enthusiastic, reformist, revolutionary, futuristic, wise, committed, honest and appreciative*' (FRDE, p. 21). And their role as '*the most influential element in realization of the country's general formal education system'* includes '*intellectually preparing the students to truly and willingly accept modesty, virtue and Hijab and act thereon by imparting the Islamic view to them*' (pp.17, 34). In accordance with the Islamic ethos, almost all schools are single sex (exceptions are some primary schools in rural areas where there is a shortage of schools and staff) and there has been an emphasis on Islamic values, such as modesty and chastity and to this end, Islamic attire (Hijab) is compulsory for female students aged 6 and above.

In Iran, education for children at primary level is mandatory and according to the Article 3 Section 3 and Section 9 of the Iranian constitution of the Islamic Republic of Iran, education at all levels should be free of charge with all people having the equal right to educate. Nevertheless, private sector schools and universities are allowed to charge tuition fees. Education at school level in Iran is highly centralised with a monolithic inflexible national curriculum mandated by the Ministry of Education (Tavakol & Imani-Taleb-Azad, 2006). Thus, regardless of being private (which is financed mainly from tuition fees) or state run, all schools are required to adhere to the same curriculum

frameworks and conform to the regulations of the Ministry of Education. The difference between private schools and state schools mainly lies in the extra-curricular activities with private schools being focused on providing their students with extra instruction to enable them pass university entrance exams (Farhady, Hezaveh, & Hedayati, 2010). The Ministry of education is responsible for setting the curriculum, textbook design and publication, educational planning and policy development, administering, monitoring and evaluation of school performance, financing, recruiting teachers and providing pre-service and in-service teacher training.

Formal education in Iran at school level consists of 5 cycles starting with pre-primary cycle, which is a one-year programme for children aged 5. This offers the children basic notions to prepare them for primary school. The primary cycle is a 5-year period (age 6 to 10), middle/guidance cycle is a 3-year period (age 11-13), and high school is a 3-year programme, plus a pre-university year (age14-17) (See Table 1). In primary schools the same teacher teaches all subjects, but in Middle schools and high schools different teachers teach different subjects. Except for the pre-school cycle, in which students do not sit an exam and automatically proceed to the next stage, at the end of all other cycles students must sit a regional exam under the supervision of provincial boards of education. Those who successfully pass the exams are entitled

to proceed to the next cycles. Pre-university courses are for those students who wish to enter university. Passing these courses will provide them with the qualifications to attend a highly competitive national university examination.

	Cycles	**Period**	**Age**
1	Pre-school	1 year	Aged 5
2	Primary school	5 years	Aged 6-10
3	Middle/Guidance school	3 years	Aged 11-13
4	High school	3 year	Aged 14-16
5	Pre-university	1 year	Aged 17

Table 1-1 School cycles in Iran

The official language of the country is Farsi (Persian), which is used as the official medium of instruction at all levels. It is theoretically mandatory for Iranian students to learn a foreign language of their choice at Middle/Junior high school. But, in practice, in almost all schools, English has been the main (almost the only) foreign language to fulfil this requirement (Farhady et al., 2010).

1.1.2 Macro policies concerning English language education in schools

The changes in the post-revolution Iran had their imprint on policies and goals concerning English language education in schools. Given such dramatic shifts in perspectives, English in Iran has come to be regarded as a double-edged sword. It is regarded as necessary for the advancement of the country in different areas, and a means to introduce the Iranian Islamic values to the world. The Iranian educational objectives at the macro structure level consider the effective teaching English - as the major medium of communication within the international community - as an important element in Iran's continuing development. As such, the Iranian education system places emphasis on teaching foreign languages in schools, and particularly on English as the main foreign language.

However, concerns over the aspects of Western culture in which the English language is embedded (Kiany, Mahdavy, & Ghafar-Samar, 2011) have led to the formulation of policies to indigenise or localise the foreign language education based on Islamic culture. In this context, the Comprehensive Scientific Plan that introduces itself as a road map to education, research and technology excellence by 2025, envisions:

> ***National actions, 23:*** *Indigenisation and the integration of the Islamic culture in curriculum design and material development*

concerning foreign language education (Comprehensive Scientific Plan, p. 57).

In the same vein, the FRDE, as a master plan for education, sets out that the Islamic-Iranian thinking must be the first and fundamental priority in foreign language curriculum:

> ***Strategy 1-5:*** *Provision of foreign language education within the optional (Core-elective) section of the curriculum framework by observing the principle of stabilization and enforcement of the Islamic–Iranian identity* (FRDE, p. 32)

This is reflected in the National Curriculum Document (2013), which includes a sub-section on the topic of foreign language education, in alignment with the socio-political orientations and the cultural values reflected in national documents, specifies that the theories, approaches, and methods of foreign language teaching should be indigenised to meet the Iranian nation's requirements:

> *آموزش زبانهای خارجی باید از دائره تنگ نظریه ها، رویکردها و روش های تدوین شده در جهان فراتر رود و به بستری برای تقویت فرهنگ ملی و باورها و ارزش های خودی در نظر گرفته شود.*

> *Foreign language education should transcend the limited range of the compiled theories, approaches, and methods in the world, and should be considered as a ground to strengthen the national culture, beliefs and local values. (p. 107-8)*

The choices of the form of reading passages, dialogues, exercises, explanations and pictures in the English textbooks are a reflection of such considerations. As such, unlike many other countries (Liaghatdar, Yamani, & Mohseni, 2009) Iranian students are expected to learn English by developing their knowledge of linguistic forms rather than developing the cross-cultural competence. Dewey (2007) argues that English as an International lingua franca is characterised by multicultural, cross-cultural and universal features. This assumes that people from different cultural background get to communicate through an international language and they argue that the adequacy of such communication relies on cultural awareness. However, Iranian students are not exposed to authentic language, and in the current English textbooks the presentation of any aspects of foreign culture has been avoided. English instruction is not offered in elementary schools where children's identity is not yet established.

Unlike learners in a second language learning/acquisition setting, Iranian students as foreign language learners who do not hear or speak

English outside of the classroom are not expected to be integrated in a cultural English-speaking community or for English to become the language of their social identity.

Even concerning linguistic competence, although there have been claims that reforms and changes in English as a foreign language (EFL) materials in Iranian schools aimed to keep up with the communicative needs of learners (National Curriculum Document, 2013, p.108), the way foreign language has been taught in most Iranian schools does not appear to help students achieve these goals (Kiany, Mahdavy, et al., 2011). As a result, a growing number of parents pay to send their children to private English language teaching centres in order to provide them with a better opportunity to obtain proficiency in English (Farhady et al., 2010). Almost all these language institutes use imported materials mainly from the UK and the USA. Their teaching materials usually come in full packages that include textbooks, workbooks, teacher manuals, audio and video materials, compact disks and other digital resources. These educational materials exclusively represent aspects of a western life style and culture such as family life, recreation and social issues, as opposed to the educational materials of the public schools that exclusively represent the Iranian-Islamic socio-cultural norms.

Concerns over the imported packages have been reflected in the supreme leader's speech (2013) addressed to the members of the

Supreme Council of Cultural Revolution (a statutory body set up by the supreme leader with great variety of functions and a stated aim to protect the education and culture against the Western or non-Islamic influence) criticising the imported EFL textbooks:

> *Another issue is the issue of books for learning foreign languages. … All these teaching books, which have been prepared on the basis of modern and good methods, promote the western lifestyle. They promote the English lifestyle. When our children, teenagers and youth read these books, they do not learn the language only. It is possible that they even forget the things that they have learnt, but what influences them most is the western lifestyle that they become familiar with as a result of reading such books. This will not be forgotten. Westerners are doing such things.*

The ministry mandated textbooks and EFL teaching-learning practices in Iranian schools promote a transmission approach to teaching and learning. This has resulted in many learners accumulating a large amount of specific and explicit knowledge of grammar and vocabulary which allows them to pass exams but which does not enable them to communicate effectively and appropriately in the real world (Jahangard, 2007; Kiany, Mahdavy, et al., 2011). And although policy makers and educational administrators appreciate that the curricula should promote

learners' responsibility for their learning, the fixed unified and central curriculum seems to have failed to take into consideration the learning style preferences of a huge number of learners with individual variations.

The overall failure of EFL education in Iranian schools is well documented in the literature, and criticisms have intensified in recent years (Nezakat-Alhossaini & Ketabi, 2013) with some concerns and criticisms focused on the curriculum (Mahmoudi & Bakar, 2014; Razmjoo, 2007; Riazi & Mosalanejad, 2010; Sadeghi & Bidel-Nikou, 2012) and assessment (Ghorbani, 2009), while the others focused on the quality of teaching (Ashtarian, 2012; Dahmardeh, 2009) and teachers (Eslami & Fatahi, 2008; Rahimi & Yadollahi, 2011a; Sadeghi & Bidel-Nikou, 2012; Safaie Asl, Safaie Asl, & Safaie Asl, 2014).

Partly in response to such concerns, policy makers appear to have taken notes of the issues and taken steps to improve the quality of education at school level. As was mentioned, in the Iranian National Curriculum Document (2012), the importance of a communicative approach to foreign language teaching and the use of ICT to improve teaching and learning in schools have been highlighted. Moreover, the Fundamental Reform Document (2011) in an attempt to meet new educational demands seeks the integration of ICT to support school educational activities, yet in conformity with the local religio-socio-political values.

1.1.3 Digital technologies and foreign language learning: contextual considerations

In seeking educational reforms, and in response to the pressures for development on the one hand, and driven by recent trends and developments in computer and multimedia technologies on the other hand, there has been a growing emphasis on the use of ICT to support teaching and learning in all subjects including EFL:

> *Country's general formal education system…is supported by educational technologies up to the standards, takes into account a wide range of resources and the learning media (The National Information and Communication Network). (FRDE, 2011: 23)*

As can be seen, the use of technology in education as long as it is conformed to "standards", has been seen as beneficial. Despite the macro-level documents seeming to be willing to incorporate technology in teaching-learning practices, the immediate access to foreign cultures and native speakers facilitated by technology and English packages have caused anxiety. The assumption underlying this concern is that the use of technologies, including digital media, can put students directly in touch with the political or cultural aspects of the foreign language and culture. In this regard the Iranian supreme leader, Ayatollah Khamenei has

several times warned against *'a great cultural invasion [that] American movies and books have launched on us, ... overshadowing our culture'* (speech addressed to the members of the Supreme Council of Cultural Revolution 15/12/2013).

As a result, much attention has been paid to protect and purify cultural media, as a potential instrument of cultural invasion, in all aspects of using, designing, and developing policies from the unwanted aspects of the alien media culture as imperialism, materialism or negative impacts of unrestricted sexual behaviours, alcohol, violence, etc. In so doing, monitoring systems are at work and officially ban or suspend the websites or webpages that contain forbidden items (moral or political).

While cultural considerations are relevant because they are inevitably in the background of my discussions and inform the perspectives adopted by the officials and policy makers, the evaluation of the pros and cons of such considerations lies beyond the focus of this paper.

1. 2. Rationale, purpose, focus and the significance of the study

By way of introduction, in order to help the readers make sense of the data in reference to the overall socio-cultural and political structure of

the context of the study, the historical causality and the philosophical assumptions and challenges underlying the EFL education policies in the context of Iranian schools are briefly described in this chapter. Clearly there is a great deal of concern to resolve the existing difficulties in the EFL education in schools, and a great deal of promise. As may be understood from the educational documents, essential ingredients for a successful EFL pedagogy are the use of technology in service of a self-regulatory and communicative approach to EFL pedagogy to enable students to adequately communicate in English. The significant role of technology as a powerful teaching/learning tool in foreign language education (FLE) has been highlighted in the literature (Blake, 2013; Davies, Hayward, & Lukman, 2005; Larsen-Freeman & Anderson, 2011; Littlemore & Oakey, 2004; Muttaqin, 2010). The literature suggests that while technology has the potential benefit to enhance pedagogy, it can neither constitute pedagogy, nor drive a substantial change on its own (Larsen-Freeman & Anderson, 2011; Moeller & Reitzes, 2011). Earlier studies (Chen, 2008; Koehler & Mishra, 2009; Moeller & Reitzes, 2011; Nunan & Wong, 2005; Rahimi & Yadollahi, 2011a) have suggested that the integration of technology into language classrooms is highly dependent on teachers and that teachers' cognition and their ability to integrate technology into their classrooms to enhance English teaching play a crucial role in their decisions regarding technology use in their

classrooms. Similarly, in the FRDE, the most prominent role has been given to teachers as change agents, and the document suggests that the implementation of the on going reforms to classroom practices depend upon teachers. Therefore, teacher training has come to be seen as a vehicle to enhance teachers' competences and empower them to deal with the new demands. Accordingly, as part of its plan to support teachers in their new role and facilitate their learning, the document sets out the decision makers' ambition to undertake a major reform to enhance teacher training through:

> *Re-engineering policies and re-adjustment of the principles governing the teacher training curricula with an emphasis on internship and adaptation of teachers' professional qualification at national and global levels in compliance with school curricula and developing appropriate policies for promotion of teacher recruitment, training and retaining methods in the education system (FRDE, P. 42).*

The importance of the study lies in the fact that despite such enthusiasm in the objectives, recent studies indicate that in practice, there has been little progress in integrating ICT into Iranian EFL education at school level (Dashtestani, 2012; Rahimi & Yadollahi, 2011b; Shahamat & Riazi, 2009). The present study seeks to answer the

question of why, given the range of individual, pedagogical, sociocultural and other contextual factors, the ICT usage of Iranian EFL teachers appears so limited. What is amiss?

Although very limited, prior research concerning the integration of ICT in EFL classrooms and EFL teachers' competencies in the context of Iranian schools and elsewhere has made valuable contributions and provided useful insight about the importance of technology, its main characteristics and related problems. Nevertheless, much of the research in the context of Iranian schools relies on large-scale quantitative data, and scant attention has been paid to explore and explain what is happening in EFL classrooms, focusing on in-depth qualitative data and teachers' feedback. As a result of this, there remains much about the nature and processes of the programme that is often unclear.

The study presented here is an attempt to make a contribution to understanding of the integration of ICT into EFL classrooms in the context of Iranian schools. This study aims to explore the interplay of a range of contextual factors and key issues, contributions and challenges that can possibly arise in the integration of technology from the perspective of teachers. In so doing, it investigates a group of Iranian EFL teachers' perceptions of the actual integration of ICT into their classrooms. The study is underpinned by a socio-cultural epistemology and utilises an interpretivist qualitative paradigm, and its focus was the

individual and contextual factors that appeared to influence and shape the perceptions and practices of these teachers.

The findings from this study contribute 1) to understanding of EFL teachers' implementation of new technologies in EFL classrooms, the challenges and complexities of using technologies in schools, 2) to inform educational policy makers, programme designers, material developers, and other stakeholders about teachers' perceptions of using ICT in EFL teaching; and 3) to identify gaps and areas for future research and programmes.

1. 3. Overview of the structure of chapters

The current chapter has provided an introduction, described the background of the problem under investigation, the statement of the problem, the purpose of the study and its significance. The remaining chapters are structured as follows:

In chapter two, which reviews the relevant literature, the discussions will be presented in two main sections. First, a historical survey of major theoretical concepts, approaches and methods of second/foreign language teaching and learning will be presented. Then, the current literature into technology mediated foreign language teaching from the perspective of a sociocultural historical activity theory will be presented. Arguing from a change or innovation perspective on the

integration of ICT into schools, some of the well-documented key factors that can affect the successful implementation of ICT will be outlined. From amongst those factors, the roles of the teachers and their pedagogical technological content knowledge have emerged as essential elements. Following this, the chapter will conclude by identifying the research gap and formulating the research questions.

Chapter three presents a detailed descriptions and justifications for the research design, methodology and the concrete procedures that I have used to collect data, method and procedures of data analysis, the study settings and participants.

Chapter four presents in some detail the findings from the observation-led interviews with a group of Iranian EFL teachers concerning their perceptions of the use of ICT in relation to their classroom practices and the influencing factors.

Chapter five reflects on the main themes and meaning of the findings in the light of the literature and the theoretical framework of the study, and will discuss them in relation to the research questions. Contributions and the limitations of the study will be included in this chapter.

Finally, chapter six will sum up the findings in connection to research questions, draw conclusions and offer suggestions for future research.

CHAPTER 2. LITERATURE REVIEW

2. 1. Introduction

According to Kern (2006), one of the key current issues and debates surrounding the research on the use of technology in language learning concerns maintaining a suitable theoretical ground. Taking this issue into consideration, he suggests that researchers maintain a theoretical ground within the SLA paradigm that most adequately suits their particular research questions; however, he argues that this should not be regarded as a single overarching theory. Kern argues that because the field encompass diversity of goals, contexts, and problems, it is important for them to be informed by multiple and diverse perspectives in the literature and choose or justify their approach in relation to their specific contexts and research questions. Taking this into consideration, the review of related literature in this study will include conceptualisation of second or foreign language pedagogy, and also theoretical perspectives on the use of Information and Communication Technology in the field. The discussions in this review of literature seek to establish a conceptual framework, in which the utilisation of technological media as a language teaching/learning tool could be grounded, and to suggest pedagogies that

are best suited to the integration of ICT for this purpose.

2. 2. Conceptualisation of second/foreign language pedagogy: a brief historical overview

> *The questions that present-day research in second language acquisition addresses drive from theoretical frameworks that posit a set of underlying beliefs, assumptions, or principles.* (Musumeci, 2011, p. 46)

The quotation that opens this section provides insight into how different pedagogical approaches and methods proposed by research and practised by practitioners are associated with different perspectives to language learning. Musumeci (2011) have reviewed a number of hotly debated questions that have surrounded the literature in second/foreign language teaching and learning and created controversies. Among the main questions that form the differences and bring about the controversies are: Is language an innate and unique human capacity or a learned behaviour? Is it acquired through exposure to the linguistic environment and through social interaction? How far is learning a second language different from or similar to the first language? For effective language learning, to what degree should the linguistic forms be introduced

explicitly or implicitly? What are the sources and types of errors? And how they should be treated? Are errors natural outcome of the developmental learning process that will gradually disappear as the learners make progress or can they be harmful and should be avoided or immediately corrected before they become permanent and fossilized? What is the role of the learner's first language in learning of a foreign language?

These are just some of the main questions. In this section, a discussion of an overview of the most dominant approaches and methods of second/foreign language teaching and their underlying theories, which have changed and developed over the past decades, is presented with particular reference to the above-mentioned questions in current foreign language education (FLE) research. Among the numerous approaches proposed to foreign language pedagogy, for many years the dominant practices and principles of language teaching have been influenced by linguistic, psychological and recently socio-cultural theories. Each of these theories takes a different position on the language learning process. However, in the on-going debate around the theories and methods of language teaching and learning, no single overarching or widely accepted theory or method of practice in foreign language education exists.

In the SLA field as we know it in 20th century, the grammar

translation method (GTM) is regarded as an early method in the literature of foreign or second language teaching (Larsen-Freeman & Anderson, 2011). As such in this section the discussion begins with GTM.

2.2.1 Grammar translation method

The grammar translation method (GTM) was the major language teaching method until the 1940s. As its name suggests, GTM was based on analysing language according to grammatical structures and vocabulary. This method represents the tradition of language teaching adopted in western society and developed over centuries of teaching, not only the classical languages such as Latin and Greek, but also foreign languages. The main teaching learning activities in GTM were teaching grammar and word-by-word translation of literary texts. After each reading passage, students are introduced to a list of words from the text in isolation, and are required to memorise the list and their meanings. Accuracy is highly emphasised and errors are not tolerated. The medium of instruction is the mother tongue. Learning activities based on this method involved mainly reading and writing with no or less attention to speaking or listening. GTM was based on an analytical view of language that perceived language as consisting of individual words in isolation. The purpose of this method was to help students to obtain mental

discipline and logical thought through reading the target language literature rather than learning the language (Fotos, 2005; Griffiths, 2004; Larsen-Freeman & Anderson, 2011).

Although this method, according to Brumfit (1983), involved some aspects of thought and cognition in the process of learning, it was heavily focused on conscious memorisation of grammar and word lists, rendering it a boring and unsuccessful endeavour, which could not lead to lively communication (Richards & Rodgers, 2014). GTM was focused heavily on textbook to present the target language, that was one of the shortcomings of this method as Richards and Rodgers (2014) put it:

> *Sentence patterns and grammar were introduced at the whim of the textbook writer. There was no standardization of the vocabulary or grammar that was included. Neither was there a consensus on what grammar, sentence patterns, and vocabulary were most important for beginning, intermediate, or advanced learners. (p. 50)*

Reactions to the shortcomings of grammar translation method, led to the rise of direct method. Thornbury (2011, p. 186) cites Palmer (1921) to describe the direct method briefly and comprehensively:

> *Learning to use a foreign language almost entirely without reading, with little or no writing, without studying a systematised and formal theory of language-structure, and without any unnecessary recourse to the mother tongue as a vehicle of instruction.* (Palmer, 1921, p. 21)

The very basic principle of direct method was that mother tongue should not be used in the classroom. The direct method, as its name suggests, is based on the assumption that meaning should be conveyed in the target language orally without any recourse to the first language, so that learners associate meaning with the target language making use of visual aids and demonstrations by teacher. The main purpose of language is communication. To this end, the teacher makes attempt to create situation for conversation through questions and answers. The direct method encourages students to think in the target language and immerse in the culture of the target language. Grammar is not taught explicitly; it is through practice of patterns that students inductively learn language (Larsen-Freeman & Anderson, 2011; Thornbury, 2011).

It seems apparent that the two methods that were discussed so far have entirely different linguistic, psychological and sociological principles, and different objectives (Brumfit, 1983; Larsen-Freeman & Anderson, 2011). The direct method grew out of the principles of a

naturalistic view of language learning which views language as speech (Brumfit, 1983; Thornbury, 2011) and habit formation of the dominant psychological theory of the time (Richards & Rodgers, 2014).

The direct method gained popularity in Europe but not in America. Nevertheless, In 1940s, World War II gave rise to a method in America, similar to direct method and based on the same assumptions called mimicry memorisation (Brumfit, 1983). In the war time, there was a need for military personnel to rapidly learn to speak critical foreign languages like German and Italian fluently, and mimicry-memorisation seemed to be very effective in developing the aural-oral skills of the learners for military purposes. Inspired by mimicry memorisation method, then a method of language teaching was developed known as Audio-lingual method (Brumfit, 1983; Gass & Selinker, 2013; Larsen-Freeman & Anderson, 2011). The audio-lingual method that embodied the systematic and theoretical principles of behaviourism was a formal method grounded in the psychological behaviourist theory of learning and structural theory (descriptive linguistics) of language (Gass & Selinker, 2013; Griffiths, 2004; Larsen-Freeman & Anderson, 2011; Larsen-Freeman & Freeman, 2008). Before going into further detail in the discussion of this method, it seems worthwhile to present an overview of the behaviourist theory of learning on which the audio-lingual method is grounded.

2.2.2 The Behaviourist theory of learning

Behaviourism was originally introduced to Psychology by Watson in 1913. The focus of this approach is on the scientific measurement or objective study of observable behaviour that is determined by environment. Based on the positivist experimental studies of animals and humans, behaviourists believe that all behaviours happen as the consequence of responding to stimuli. In this view, if a positive reinforcement (reward) follows the response, there will be likelihood that the response could be elicited again in the same situation (conditioning). Consistent, regular reinforcement could lead to conditioning that means the establishment of the behavioural patterns. Behaviourists discounted the existence of internal mental capacities in human beings and held the view that learning occurs as a result of conditioning certain reflexes to situations (interaction to the environment). In this approach, learning in humans is similar to that of the animals, and both could be taught in the same way to do certain things. Pavlov and Skinner conducted experiments on animals (dogs, pigeons and rats) and generalised the results to human beings. Watson and Bandura studied infants' behaviour (Freyberg, 2006; Prichard, 2009; Weiten, 2013).

The behaviouristic theory of learning and Saussure's structural linguistics that was the dominant theoretical view to language at the time

with the focus on phonology and morphology provided the foundation for the audio- lingual method of second or foreign language teaching/learning (Larsen-Freeman & Anderson, 2011; Larsen-Freeman & Freeman, 2008).

2.2.3 The Audio-lingual Method

The audio-lingual approach, which was very popular until 1960s, was affected by the theory of behaviourism in the way that language learning was viewed as establishing a set of habits rather than innate capacity. Teachers were supposed to help this habits develop in learners through positive reinforcement and conditioning. However, there is no explicit teaching or explanation of grammatical rules. Students do not need to think and understand grammar to communicate. Linguistic forms and grammar are taught inductively in the form of presenting dialogues and introducing structural drills. Students' activities include the overlearning or in other term the extensive repetition and memorisation of dialogues and structural patterns. Overlearning was emphasised in order to help learners produce sentences automatically without stopping and thinking to linguistic forms and thus they could respond unconsciously in their interactions. Language in this approach is primarily oral and is conceived of as a means of communication. Thus, there is much use of language laboratories, and audio-video tools as learning aids. This is also

specifically important in order to develop native like pronunciation, which is emphasized in audio-lingual method. Teacher acts as a model of the target language and students are supposed to mimic this model. In so doing, teachers are required to fulfil their role as an accurate model for imitation. This requires them to be native speakers and have a good knowledge of linguistics. Teachers are in front, and control the students' behaviours. Based on the theory of behaviourism, errors are regarded as bad habits, so they should be eradicated as soon as they emerge to prevent bad habit formation (Gass & Selinker, 2013; Griffiths, 2004; Larsen-Freeman & Anderson, 2011; Larsen-Freeman & Freeman, 2008; Prichard, 2009).

Contrastive analysis associated with Fries (1945) and Lado (1957) was incorporated in teaching to predict learning difficulties and prevent errors simply based on linguistic similarities and differences between L1 and L2: '…those elements that are similar to his native language will be simple for him, and those elements that are different will be difficult' (Lado, 1957, p. 2). Contrastive analysis' underlying theory was that language is a set of habits (Gass & Selinker, 2013). Based on contrastive analysis hypothesis all errors were seen as interference of linguistic forms or transfer of habits from the learners' first language to the target language. Fries (1945) who initiated contrastive analysis wrote:

> *The most efficient materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner* (p. 9).

So, for a pedagogical activity to be successful, it was necessary to develop teaching materials through structural, morphological and cultural comparison of the two languages to determine potential errors based on similarities and differences (Gass & Selinker, 2013).

In 1959, Chomsky strongly questioned the previous structuralist-behaviourist theory of learning for its assumptions about language and learning (Weiten, 2013). He criticised Skinner for a quick generalisation of his experiment on animals to human beings. Chomsky posited that imitation and stimulus-response theories of learning are insufficient to explain how people come to create an infinite number of sentences and perceive sentences they have never heard before (Larsen-Freeman & Anderson, 2011; Weiten, 2013). He argued that there are unlimited numbers of sentences in a language; as such it does not seem reasonable to expect that languages be learned entirely by imitation (Larsen-Freeman & Anderson, 2011). He argued that cognition makes it possible to produce and perceive an unlimited number of sentences with the knowledge of a limited number of grammatical rules (Larsen-Freeman &

Anderson, 2011; Weiten, 2013).

2.2.4 'Universal Grammar' theory of language and psychological 'Nativist' theory of language learning

In explaining language and how it is acquired, on a cognitive basis in the context of linguistics and psychology, Chomsky took the position that language is creative rather than memorized, rule governed rather than being a habit and that universal phenomenon of the human mind underlies all languages. The core of Chomsky's theory which is called 'Nativist' theory (drawing from the word nature) (Weiten, 2013, p. 322) is that every human being is biologically equipped with an inborn language acquisition device (LAD), that irrespective of what language is to be acquired, enables him/her to process the language perception and production (Jordan, 2004; Weiten, 2013). This innate mechanism is responsible for the early stages of language development and enables children to acquire language without formal instruction. Child language acquisition is guided by a set of internal principles called universal Grammar (UG) i.e. grammar which is common to all languages (Jordan, 2004; Shaffer & Kipp, 2013; Weiten, 2013).

The innateness of UG explains that the individuals' various aspects of linguistic knowledge extend beyond the limited input that they are exposed to (*poverty of stimulus*) (Gass & Selinker, 2013; White, 2003).

Nevertheless, Chomsky does not deny the influence of the external factors and environment in the process of language acquisition. In his view language learning is an innate process, which can be activated and improved by exposure to a particular natural language (Blake, 2013). He also identified a concept of *generative transformational grammar,* which explains if children are provided with rich and sustained input to develop their internal linguistic knowledge (competence), their ability to produce language (performance) gradually develops through time, and the acquisition and use of the language becomes automatic and natural (Blake, 2013). The grammatical system he identified consists of deep structures and surface structures. Deep structures are the underlying structures that contain the meaning of the sentence, and surface structures deal with the surface form of the sentence, which include the sounds and words in a sentence and their function is to help deliver the underlying meaning. The UG theory posits that the innate grammar or syntax mediates between deep and surface structure (Gass & Selinker, 2013).

By the distinction between competence and performance, and deep structure and surface structure, in the nativists' view, slip of the tongue, grammatically false sentences, and memory lapses that may happen due to fatigue or distraction are regarded as part of performance and are of little importance (Gass & Selinker, 2013). What are important for

Chomskyans are the limitations (or errors) that are characterised as the insufficient knowledge of the underlying structure (competence) (Blake, 2013; Brumfit, 1983). This knowledge is labelled as the ideal competence, which consists of interpretation and use of both grammatically accurate and stylistic appropriate language for certain contexts (Brumfit, 1983).

To put it succinctly, Chomsky proposed a cognitive definition for both language and language acquisition. Language, as he suggested, is a rule-governed system and is essentially a human mental capacity: '*sentences are not learned by imitation and repetition but "generated'' from the learner's underlying "competence*"' (Richards & Rodgers, 2014, p. 66).

Although Chomsky's theory was primarily concerned with the child's first language acquisition (Kirsch, 2008), it was massively influential in the SLA field and brought about a rapid paradigm shift in linguistics and the SLA field (Blake, 2013; Jordan, 2004). Drawing on the learning theories of cognitive psychology and Chomsky's theory of transformational-generative grammar, the Cognitive Code Approach in language teaching was established (Blake, 2013; Chastain, 1988).

2.2.5 Cognitive Code Approach: basic principles and classroom procedures

Cognitive code approach, unlike the behaviouristic view that considers learning as a habit and learner's role as simply responding to stimuli, provided cognitive interpretations for learning and emphasised that learning involves mental processes. In this view, learners are considered to be responsible for their own learning while they have the teacher as a guide to encourage and help learners activate their mental capabilities to elicit the rules of the language (Larsen-Freeman & Anderson, 2011; Richards & Rodgers, 2014). From this perspective, students cannot learn an infinite number of sentences in a language through pattern drills and memorisation. In cognitive-code approach the aim of language teaching is to develop the learner's competence and promote their creative and meaningful use of language in unexpected communicative situations (Chastain, 1988). To this end, emphasis was placed on conscious learning of grammatical rules through meaningful practice and use of language (Richards & Rodgers, 2014). Accordingly, learners' role, by definition, is to discover rules of the language through inductive and deductive methods of practicing grammar i.e., teachers present grammar and students use them to produce language (deductive) and/or they give examples to students to work out the grammatical rules (inductive) in

classroom (Larsen-Freeman & Anderson, 2011). This emphasis on knowing the rules of the language is to activate the competence that students need before they can carry on conversation in communicative situations. Therefore, performance follows the competence, i.e. functional performance skills can be developed only after knowledge of the rules of the language has been achieved. By the same token, in presenting activities in the classroom, receptive skills (listening, reading) should precede productive skills (speaking, writing).

The role of the first language (L1) in developing the learners' second language (L2) competence is regarded as constructive when they can transfer the universal elements of L1 to L2 (Chastain, 1988). Attitude to errors in this approach was different from the old behaviourism. Errors were regarded as natural and as signs that learners were actively involved in the process of meaningful learning (Richards & Rodgers, 2014). The role of the teacher, however, is important in recognising the cognitive abilities of students and to mentor them in a manner that they can relate the newly learned material to their previous knowledge. Furthermore, s/he is responsible for providing and presenting the meaningful material in the classroom. Another responsibility of the teacher is to encourage student to engage actively in the process of learning through methods such as discussing students' questions and providing the opportunities in the classroom for students

to use and recall what they have learned (Chastain, 1988).

The cognitive code approach to second language teaching attracted considerable attention from academics and practitioners in the early 1970s for its pedagogical implications and persuaded them to incorporate the concepts and constructs of this approach to build teaching strategies in second language classroom (Chastain, 1988). Most of the methods that were presented as alternative to audio-lingual method attempted to place an emphasis on cognition and incorporating communicative activities for the classroom while assigning an essential role to grammatical practices in order to develop the competence (Chastain, 1988). However, in fact, the language teaching methods that were developed could not actually realize the principles of the cognitive code approach (Richards & Rodgers, 2014; Larsen- Freeman & Anderson, 2011) and none of them were completely successful (Doughty & Williams, 1998). Some of the most famous methods of that time are Silent way, Suggestopedia, Total Physical Response and Community Language Learning (for full list and details about these methods see Chastain, 1988; Larsen-Freeman & Anderson, 2011; Richards & Rodgers, 2014).

Based on Chomsky's psycholinguistic theory of language acquisition, Krashen (1981) proposed a model of second language acquisition known as Monitor model which provided the theoretical

foundations for natural approach (Blake, 2013) and have had a great impact in the field of second language teaching (Gass & Selinker, 2013).

2.2.6 Monitor Model/Theory

Monitor Theory proposed by Krashen is composed of five basic assumptions or hypotheses that provide a framework for teaching a second language:

- Acquisition vs. Learning Hypothesis
- Natural Order Hypothesis
- Monitor Hypothesis
- Comprehensible Input Hypothesis
- Affective Filter Hypothesis

2.2.6.1 Acquisition vs. Learning Hypothesis

Krashen (1982) distinguished acquisition from learning in terms of developing competence through implicit and explicit or informal and formal learning. He describes acquisition as a natural or subconscious process through which acquirers 'pick up' a language in natural communicative exchanges, quite similar to developing proficiency in the mother tongue (p. 10). In contrast, learning is a conscious process that

occurs as a result of explicit instruction or study of linguistic forms and vocabulary, and leads to accumulating knowledge "about" the language (Krashen, 1982, p. 10). He believes that adult second language learners can use the same process to acquire a language and they can have access to their Language Acquisition Device (LAD) to develop their competence.

2.2.6.2 Natural Order Hypothesis

Krashen embraced Chomsky's ideas of the rule-governed system of languages and the innate mechanism of learning the first language; and based on research findings, argued that the acquisition of grammatical structures of L2 follows a predictable sequence (Kirsch, 2008; Krashen, 1982). As such, from this perspective, regardless of the age of the acquirers and the language to be acquired, some grammatical structures are acquired earlier than others. This 'natural order' that holds for similarities in the sequence of acquisition of certain linguistic forms by almost all second language acquirers, can predict many of the errors that learners make during the process of language development. This is not the same order of learning as the first language. But, it reveals the existence of natural processes through which second/foreign language learners develop ability in a language.

2.2.6.3 Monitor Hypothesis

Based on the distinction between acquisition and conscious learning, Krashen (1982) argued that conscious knowledge of grammatical rules resulting from formal or explicit teaching-learning practice has a minor role in second language performance. He believes that learned competence cannot be used in language performance. It can serve only to create a monitor or editor of the language.

Krashen (1982) explained learner differences in terms of the use of monitor: over users, optimal users, and under users. Overusers use the monitor excessively and attempt to correct themselves all the time. As a result, their speech is extremely slow and non-fluent. Under users do not use the monitor because either they have not learned enough grammatical knowledge, or they want to rely only on their acquired knowledge of language. Optimal users can activate the monitor appropriately and adequately without impeding communication.

2.2.6.4 Comprehensible Input Hypothesis

Similar to Chomsky's emphasis on exposure to rich input, Krashen highlighted the role of a *comprehensible input* in second language learning (Blake, 2013). Kraschen (1982) believed that this hypothesis could provide answers to many theoretical questions in language acquisition including how acquirers proceed from one level of

competence to a higher level. He considered the current level of competence as *i* and the next level of competence as *i*+1. He argued that for a successful acquisition of language and to make a progress from one level to another, individuals require to be exposed to comprehensible input i.e. *i*+ 1 which is slightly beyond their current level of competence in terms of linguistic forms but should be understandable semantically (in its meaning) (Krashen, 1982). This emphasis on meaning in Krashen's view to language acquisition is in contrast to Chomsky's exclusive focus on syntactic competence to acquire languages (Blake, 2008).

2.2.6.5 Affective Filter Hypothesis

This hypothesis concerns the impact of affective factors in L2 acquisition. Krashen (1982) hypothesised that in unfavourable situations, negative attitudes and anxieties raise a mental block or affective filter that reduces the learner's ability to develop comprehensible input and thus, the acquisition of L2 is blocked. As such, optimal condition for inter-language acquisition in Krashen's view is studying in settings that are stress-free, inviting, engaging, and also supplied with lots of comprehensible input.

The major tenets of these hypotheses were translated into a method of language teaching practice in the classroom called Natural Method (or

approach) and in turn, provided the basis for the communicative approaches to language teaching (Blake, 2013; Chastain, 1988). Krashen and Terrell (1983) identified natural approach with 5 principles:

- The teaching-learning aim is meaningful communication
- Language production comes gradually after learners have been exposed to enormous comprehensible input
- Teachers should allow students to initiate speech production based on a natural order and in stages according to their linguistic abilities.
- Language acquisition (building communicative competence) is more important and emphasised than learning (linguistic competence).
- Teachers' role is important in creating environments in which students engage in classroom activities free of stress, and lowering the affective filters

From a later renewed perspective, Terrell (1986) proposed that although natural approach places so much emphasis on acquisition, but there is nothing intrinsically wrong with conscious learning of linguistic forms through grammar exercises. He posited that this conscious learned knowledge of linguistic forms could be beneficial in enhancing students' subconscious communicative language ability.

In essence, the natural approach developed by Krashen and Terrell (1983) allowed a range of contextualised communicative activities and learning techniques based on humanistic views to learning, and concentrated on meaningful communication, provided a route to communicative approaches to language teaching (CLT) (Blake, 2013; Kirsch, 2008). Although natural approach received considerable criticism, it became very influential in the United States. At the same time that the natural approach was the prevailing influence in language teaching in the USA, as a result of the work of the Council of Europe, Communicative Language Teaching (also referred to as functional-notional, derived from functional linguistics) became the dominant approach in Europe (Kirsh, 2008).

2.2.7 Communicative language teaching (CLT)

An impetus for the shift to communicative approaches to language teaching was on the one hand the inefficiency detected in the language teaching methods of the time, and on the other hand, the re-evaluation of language by second language researchers and linguists. While Chomskyan formulation of grammatical competence as a basic aspect of language was required to produce accurate sentences, emphasis was directed to other aspects of language that were also required to perform appropriately across a wide range of socio-cultural context for different

communicative purposes such as greeting, inviting, making requests or responding to enquiries, making suggestions and offering advice, describing wishes and favours, responding to offer of help, and so on (Kirsch, 2008; Larsen-Freeman & Anderson, 2011; Richards, 2006). As such, the focus moved away from grammar as the core component of language to a different view of language that has culture and communication as its core. The recent views to language as a system for understanding and the expression of communicative meaning rather than a system of abstract rules, and the definition of communicative competence presented by Hymes, prompted a rethinking of the way methodologists approached the system of language teaching. A helpful way to understand CLT seems to be by exploring it through the underlying theories of language, philosophy, psychology, and educational research (Savignon, 2002). In the following two sections a discussion of a central concept in CLT –communicative competence-, the implications of CLT for teaching practice, and a theory associated with and on which CLT could be grounded – Social Constructivism /Vygotsky's socio-cultural theory- will be briefly discussed.

2.2.7.1 Linguistic theory: Communicative Competence

Although the literature indicates the strong influence of Chomsky's perspectives in the field of linguistics, in the late 1960s, his linguistic

theory and his exclusive position regarding linguistic competence and performance was heavily criticised by the discontented sociolinguists (Kirsch, 2008). One of the radical critics was sociolinguist Hymes (1967, 1972) who questioned Chomsky's distinction between linguistic competence and performance, and the idea of universal grammar. He rejected Chomsky's view that the ideal knowledge that a speaker is supposed to possess is restricted to syntactic rules of grammar. Hymes reasoned that syntax and even semantic are not enough for the appropriate language use in social contexts. He pointed out that, '*there are rules of use without which the rules of grammar would be useless'* (Hymes, 1972, p. 278). In his view, for an effective communication, in addition to the knowledge of the grammatical rules that are needed to produce accurate sentences, a language learner needs knowledge of the rules of appropriate use of language. This competence includes more than structures of the language; it includes knowing how to function in certain socio-cultural settings effectively and appropriately (Brumfit, 1983). Accordingly, from a sociolinguistic perspective, Hymes discounted the universality of linguistic features as he believed in context specific aspects of language (Steuerman, 2000).

Based on this reasoning, having rejected Chomsky's idea, but deliberately using the same terminology, Hymes proposed the notion of 'communicative competence' against Chomsky's 'linguistic competence

(Brumfit, 1983; Cook, 2003). Hymes' communicative competence is specified with the parameters of grammaticality, feasibility, appropriateness, and probability that an 'actual speaker-hearer' (as opposed to chomsky's 'ideal speaker- hearer') should possess to be able to effectively communicate (1972):

- **Grammaticality**: linguistic as well as socio-cultural Knowledge of the language
- **Feasibility**: Ability to decide whether an utterance is formally possible
- **Appropriateness**: Ability to produce an utterance relevant and proper in a given context
- **Probability**: Ability to use the language to have something done

Therefore, it may be said that in Hymes' definition of communicative competence there are pragmatic and social dimensions in addition to knowledge of linguistic units (Kirsch, 2008). Canale and Swain (1980) and Canale (1983) elaborated on linguistic competence and the socio-linguistic competence of Hymes, and added other components to communicative competence. They proposed a three-dimension communicative competence that composed of 1. grammatical competence (i.e., linguistic competence) 2. sociolinguistic competence,

3. strategic competence, with the sociolinguistic competence consisting of two other component parts: sociocultural competence and discourse competence. These four components of communicative competence are defined as follows:

- **Grammatical competence** is the knowledge of linguistic units such as phonology and morphology and grammatical rules to form sentences.
- **Sociocultural competence** is sociocultural background knowledge with regard to context to understand and use language.
- **Discourse competence** is the knowledge of the rules of the language beyond the sentence level like rules governing cohesion and coherence between sentences.
- **Strategic competence** is the knowledge of verbal and non-verbal strategies to overcome or repair communication breakdowns due to insufficient proficiency. (Celce-Murcia, 2007; Johnson & Johnson, 1998; Kirsch, 2008; Savignon, 2002)

In seeking development of a pedagogical model, Celce-Murcia, Dörnyei, & Thurrell (1995) introduced a model of communicative competence with a further component called '*actional competence'* (the knowledge required to understand and produce speech acts and speech events). Figure 2.1 illustrates a historical evolution of communicative

competence.

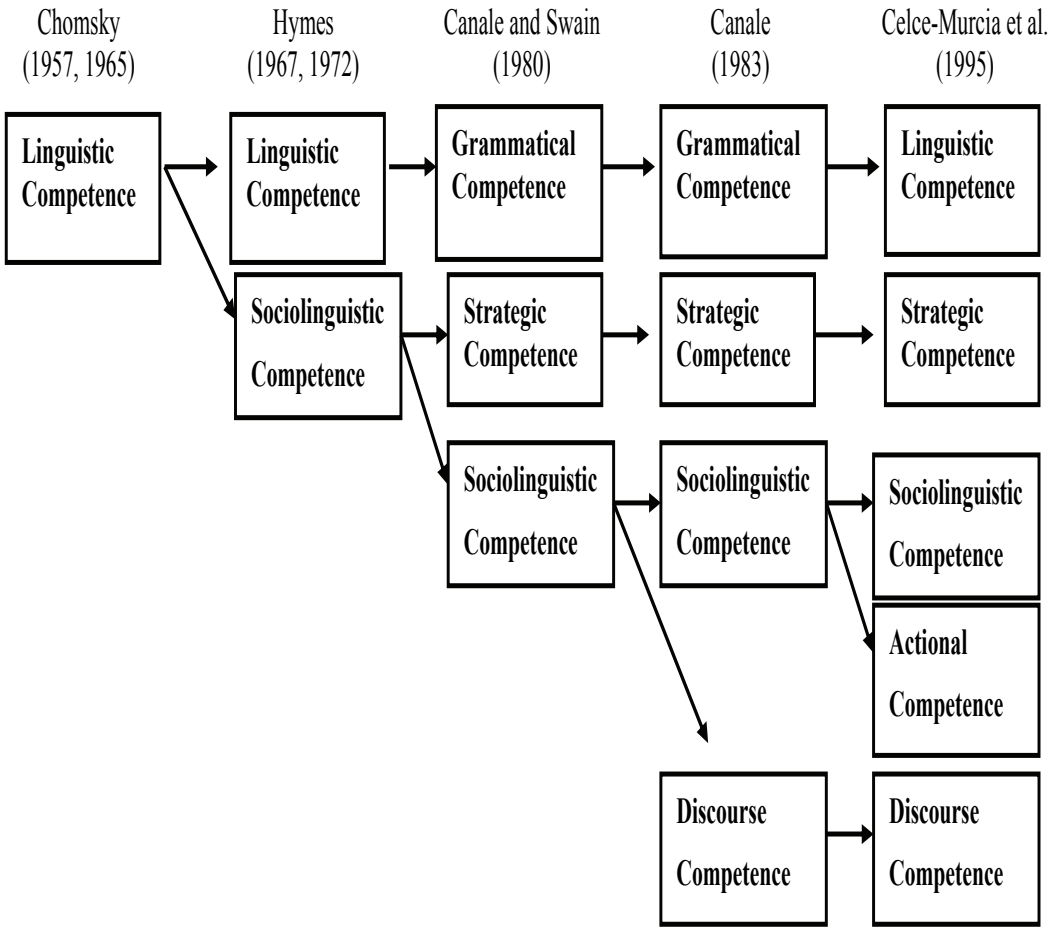

Figure 2-1 Historical development of communicative competence (Celce-Murcia, 2007, p. 43)

Altogether, the theoretical construct of communicative competence first introduced and defined by Hymes, has been explored and redefined by many researchers over the years. And this has contributed to the development of communicative competence with a myriad of functions that language learners must be able to accomplish (Brown, 2007). In these definitions and descriptions of communicative competence,

collectively, a focus on the social rather than linguistic forms can be found, because there is a belief that it is the society and its culture that creates language (Magnan, 2008). The identification of communicative competence is approached as the identification of real world communicative needs of the learners that situates instructional goals and provides the basis for curriculum design (Savignon, 2005, 2008).

Hymes‘ idea of communicative competence was not primarily concerned with language teaching, but as it provided a theoretical framework that could describe the knowledge and capabilities of a language user, it had a great impact in the field and shifted the goal of teaching from developing linguistic or grammatical competence to communicative competence (Celce-Murcia, 2007).

Using Hymes’ terminology and justification as part of their underlying theory, around 1970s communicative approaches to language teaching emerged and became prominent in the field of language teaching (Celce-Murcia, 2007; Larsen-Freeman & Anderson, 2011; Richards, 2006; Savignon, 2002).

2.2.7.2 Basic principles and classroom implications of CLT

CLT is a broadly based approach that brought about a shift in viewing language learning, learners, teachers, and the classroom as an environment for authentic target language use (Richards and Rodgers,

2014). There is some diversity of opinion in the literature as to what CLT is (Cook, 2003; Savignon, 2005; Richards, 2006). This is because of the different perspectives that people actually take towards defining CLT in practice. According to Savignon (2005) although CLT has achieved great popularity in the literature, there continue to be multiple and sometimes conflicting interpretations of the concept. Nevertheless, characteristic features and objectives remain the same in almost all versions (ibid). What they all have in common is that the underlying assumption for the instructional design, teaching-learning practices, teacher-student roles and material development is a communicative model of language (Richards & Rodgers, 2014).

Social interaction is an identifying feature of CLT, and the focus or goal of CLT thus lies in the designing and employing methodologies that are aiming at and capable of developing learners' communicative competence through engaging them in communicative language use (Richards & Rodgers, 2014; Savignon, 2005). Furthermore, CLT takes a process approach to Language learning (Richards, 2006; Savignon, 2005) that takes place in social contexts through:

- Interaction between the learner and users of the language
- Collaborative creation of meaning
- Creating meaningful and purposeful interaction through language

- Negotiation of meaning as the learner and his or her interlocutor arrive at understanding
- Learning through attending to the feedback learners get when they use the language
- Paying attention to the language one hears (the input) and trying to incorporate new forms into one's developing communicative competence
- Trying out and experimenting with different ways of saying things (Richards, 2006, p. 4)

Students are assumed to have responsibility and choice to shape these goals and processes. And as is clear from the above quote, they are supposed to work collaboratively to construct and negotiate meaning through genuine and purposeful interaction (Richards, 2006; Savignon, 2002, 2005). In so doing, students are given opportunities to focus on their own learning process through an understanding of their own styles of learning and through the development of appropriate strategies for autonomous learning (Richards, 2006; Savignon, 2005). The teacher has the responsibility to provide opportunities through setting up tasks and encouraging learners to interact and develop collaboration in the communicative activities that are established by him/her. Communicative activities such as role-plays, games, and problem solving activities are used in order to engage students in the process of

communication (and learning activities are not merely focused on rule recitation or practicing pattern drills) (Richards & Rodgers, 2014; Larsen-Freeman & Anderson, 2011). The underlying assumption is that activities in which language is used for carrying out meaningful tasks promote learning (Richards & Rodgers, 2014). As such, the teachers' role in a communicative classroom has extended beyond information giving to active facilitator, co-communicator, advisor and coach. Teachers are no longer regarded as a repertoire of knowledge but as a learner among learners (Larsen-Freeman & Anderson, 2011). The CLT phenomenon actually changed the role of the teachers and students dramatically. At the centre of the classroom activities and material design are the learners. Thus, learning activities need to be selected or designed based on analysis of students' needs, styles, goals and interests (Richards and Rodgers, 2014; Cook, 2003).

In the communicative approach to language teaching, classroom activities/ tasks are aimed at equipping students with the communicative skills they need to learn to act in various contexts and situations outside the classroom. Classrooms, as such, are characterised by attempts to ensure the authenticity of materials and meaningfulness of learning activities. As there is emphasis placed on real language use and process of communication, linguistic knowledge is not the main focus, but aspects of language are used to carry out communicative purposes. As

such, all of the components of communicative competence (grammatical, discourse, actional, sociolinguistic, and strategic) are taken into consideration.

Giving students the opportunity to communicate in the target language with accuracy and fluency, as was previously mentioned, is the ultimate goal in CLT. To this end, accuracy and fluency are viewed as two important factors; but sometimes especially when the focus is on building fluency, in order to encourage learners to keep in language use, linguistic errors are not corrected (Brown, 2007; Larsen-Freeman & Anderson, 2011). Correcting learners' errors during a fluency-based task poses the risk of hampering the flow of speech, and/ or embarrassing the students and discouraging them from continuing the speech after being interrupted (Scrivener, 2011). Linguistic errors in CLT are tolerated and considered as a natural outcome of the process of constructing communicative competence. However, accuracy is not sacrificed by fluency and errors will be dealt with in accuracy-based activities (Larsen-Freeman & Anderson, 2011). This shows that although the focus in CLT is on meaning rather than form, but unlike Natural Approach, the grammar and accuracy activities are not abandoned. Grammar as one of the components of communicative competence is paid attention to in the classroom (Cook, 2003).

Breaking language into its component parts, the step by step

teaching of isolated language elements, and sequence of the four language skills (speaking, listening, reading, writing) is no longer at work in CLT (Cook, 2003; Savignon, 2005). The ability to integrate form and function (as it occurs in the real world) is the ultimate goal of a communicatively oriented language teaching. To this end, CLT places equal stress on all four skills, and thus, all four skills are introduced and worked upon from the very beginning (ibid, ibid).

As was mentioned, CLT is a broad approach and its interpretations and implementations are varied. Howatt (1984, p. 279) generally drew a distinction between 'strong' and 'weak' versions of CLT. The weak version places so much emphasis on the need for providing learners with sufficient opportunities to practice and learn 'English for communicative purposes', while the strong version asserts that 'language is acquired through communication' (p. 279). Elaborating on this, Ellis (2003) argues that as with many other approaches and methods, the weaker version is very much based on the assumption 'that the components of communicative competence can be identified and systematically taught' (p. 28). In this respect students first learn the linguistic elements and then learn how to use them in communication. While the modifications that it made in teaching and learning activities must not be discounted, the weaker version of CLT cannot be considered as dramatic. In comparison, the stronger version of CLT is believed to have a sound and accurate

basis in the Natural Approach of Krashen and Terrel (1983) and supports acquiring language through self-discovery and the use of tasks (Ellis, 2003).

Task-based, content-based and participatory approaches are manifestations of syllabus designed based on the strong version of CLT (Ellis, 2003; Larsen-Freeman & Anderson, 2011). Teaching-learning activities in a task-based syllabus are composed of meaningful tasks that resemble real world activities which learners need to use target language to perform them (Cook, 2003, ibid). The main features of the task-based instruction (TBI) have been summarized by Nunan (2006):

- A needs based approach to content selection
- An emphasis on learning to communicate through interaction in the target language
- The introduction of authentic texts into the learning situation
- The provision of opportunities for learners to focus, not only on the language but also on the learning process itself
- An enhancement of the learner's own personal experiences as important contributing elements to classroom learning
- The linking of classroom language learning with language use outside the classroom (p. 14)

In content-based instruction (CBI), or as referred to in European context, content and language integrated learning (CLIL), learning a

content that is often a particular academic, profession or school subject such as history is integrated with learning the target language (Larsen-Freeman, 2011). In fact, the target language is used as a means of learning some other content; but at the end students learn both content and language (for a detailed description of these approaches or syllabus See: Nunan, 2004; Larsen-Freeman & Anderson, 2011). Common to all these syllabus types is the fact that they focus on teaching through communication and using language as a tool rather than focusing on language and the linguistic content for communication (Larsen-Freeman & Anderson, 2011). In brief, the main concern of CLT is described as '*real-life communication'* (Howatt, 2014) and the most characteristic features of CLT could be identified as '*process oriented, task based, and inductive, or discovery oriented'*. (Savignon, 2005, p. 635)

2.2.7.3 Theory of learning

Although there is a substantial literature on CLT and a great attempt has been made to describe every communicative aspect of language, relatively little attention has been paid to the underlying learning theory of CLT (Richards & Rodgers, 2014). Some of the major writers (Brandl, 2008; Dörnyei, 2009; Larsen-Freeman & Anderson, 2011) believe that CLT was introduced without any explicit learning theory that underlies its practical and theoretical foundation. Dörnyei (2009) for example,

maintained that the only learning-specific principle that was available for CLT material developers and practitioners was the broad tenet of 'learning through doing'. This interpretation is consonant with the perspectives of Richards and Rodgers (2014) and Larsen-Freeman and Anderson (2011), who believe in the general principle that students will learn to communicate in the target language through their active participation in using the most appropriate functional and social forms of language to convey and interpret situational meaning. CLT, as such, is best described as a set of very general beliefs or methodological principles that can be used as guideline for developing the learners' communicative competence (Brandl, 2008). Nevertheless, according to Richards and Rodgers (2014), the principles that can be inferred from classroom teaching/learning activities do not explain the processes of language acquisition. They rather inform the conditions that are necessary for second language acquisition. Items listed below are what Richards and Rodgers identify as the underlying assumptions or principles of CLT:

- *Activities that involve real communication promote learning (communication principle)*

- *Activities in which language is used for carrying out meaningful tasks promote learning (task principle)*

- *Language that is meaningful to language learner supports the learning process (meaningfulness principle)* (p. 90)

Though much of the literature does not reflect the theoretical basis of CLT in terms of learning processes, there appears to be a natural affinity between the main pedagogical concepts of Socio-cultural theory (SCT) and the major components of CLT methodology such as interaction, collaboration, group work, negotiation of meaning and information gap activities (mediating), teacher as facilitator and coach (scaffolding), and self-regulation.

Sullivan (2000) conducted a study on playfulness as mediation in CLT from a socio-cultural perspective. As revealing as Sullivan's research is, spontaneous social playfulness has an important role to play in mediating the learning process implicitly. This has been considered as a leading activity that provides the opportunity to interact and communicate with teachers and other learners to practice negotiation of meaning and co-construct knowledge together. Play as argued by Vygotsky (1978) and as has been stressed in CLT, has a key role in promoting learners' zone of proximal development. Also, Ariza and Hancock (2003) in their informative survey of theoretical trends in SLA maintained that Krashen's innatist i+1 theory is a kind of scaffolding similar to Vygotsky (1962) zone of proximal development in that it

posits L2 is acquired unconsciously in a manner similar to the acquisition of L1.

In recent years, the literature on second and foreign language learning reflects a move away from a cognitive viewpoint, which sees language as a purely psychological and cognitive phenomenon and places considerable focus on the learner, towards studies within the framework of a social constructivist perspective which are concerned with understanding the acquisition process within sociocultural settings (Brown, 2007; Gass & Selinker, 2008). Within this framework the social context in which language is learned and sociocultural interactions and other social factors are essential in learning in many ways, and that without considering social context in which language is learned and their historical development, one cannot understand and explain how language is learned or acquired (Brown, 2007; Gass & Selinker, 2008; Savignon, 2005). SCT as Negueruela (2008) puts it, *'offers a profoundly different understanding of basic categories such as mind, language, and the processes of learning and development'* comparing to traditional approaches to SLA (p. 194). As its implication for second/foreign language teaching is relevant to the discussions in this study, it would be worthwhile to touch briefly upon this theory.

2.2.8 Socio-cultural theory

Rooted in Marxian dialectics, the socio-cultural theory of mind was put forth by the Russian psychologist Vygotsky. One of the Key concepts of this theory is mediation (Gass & Selinker, 2008; Lantolf & Poehner, 2008). It is proposed:

> *Human consciousness …emerged from the organic (i.e., dialectic) unity of our biologically endowed brains and our culturally created symbolic artefacts and activity. Humans develop the capacity to use cultural means to gain intentional control over their brain rather than being controlled by this biological organ* (Lantolf & Poehner, 2008, p. 4)

The core argument of sociocultural theory is that individual's cognitive development is not direct, but it is through socio-culturally mediated activities and tools. This maintains that internalisation takes place as a result of establishing a connection between individual's cognitive and social and physical world and this is mediated by cultural artefacts such as language and by material artefacts (Gass and Selinker, 2008).

Vygotsky (1978) believed that in the institutionalised system of the formal education, mediation was best accomplished in what he called the 'Zone of Proximal Development'. This concept, according to Vygotsky,

indicates the gap between the actual level of development (that is what individuals are able to do on their own) and the level of potential future development (that is what the individual is not yet able to do independently but they s/he will be able to do with the assistance of adults or in cooperation with more competent peers). This type of support and assistance resulting from interaction that enables the learner to carry out the activity and to internalise the procedure has been called Scaffolding (Kirsch, 2008). This, according to Brown (2007), '*emphasizes the dynamic nature of interplay between learners and their peers and the teachers and others with whom they interact'* (p. 304). By such interactions, helping the accomplishment of tasks is not the ultimate goal in ZPD, but developing the intra-mental processes such as strategies of both learning and communication while they engage in collaborative activities are given importance (Kirsch, 2008).

This is not just about transmission of knowledge, and learners are not defined as passive receptors of knowledge. There is a reciprocal relationship between learners and context, a relationship that is dialectical, dynamic and constantly evolving (ibid). In this vein, the sociocultural view of language learning/acquisition prompted a move towards taking as specific the interpersonal setting in which the learner functions, and having a great focus on the social process and the interaction between learners and society: novice and experts (Brown,

2007).

Although it was generally a theory of mind and not to explain second language acquisition, SCT has made a great impact in the SLA field. One important drive towards application of social constructivist perspectives in SLA was the work of Long (1983, 1985).

Long considered Krashen's innatist view of SLA within a social constructivist framework and proposed Interaction Hypothesis. Krashen's emphasis was exclusively on input (Kirsh, 2008) as he explicitly asserted that '*comprehensible input is the only causative variable in second language acquisition'* (Krashen, 1981, p. 74). And believed that exposing learners to rich input guarantees intake (i.e., the input that is stored in memory and gets internalised) (ibid). Swain (1993, 1995, 2000) by offering what is known as the Output Hypothesis responded that output (production of language) is as important as input in language acquisition. Likewise, Long recognised that, while rich language input was essential it was not adequate for the acquisition to take place. Also the questions were raised as what comprehensible input is and who is blamed in the case of student's lack of progress (Blake, 2013). Long believed that SLA acquisition was best achieved through social interaction (Brown, 2007; Kirsch, 2008). As such, he proposed an interaction hypothesis in which both comprehensible input and interaction are regarded as essential, and stressed that input becomes

comprehensible as a result of modification or restructuring interaction known as modified interaction. In his view, modification of language in the similar way that people adapt their speech when speaking to foreigners, or infants, can provide the students with an acceptable level of understanding. Furthermore, the negotiation of meaning or form through the adaptation of the speech and changing the structure, that leads to repair the miscommunications or misunderstandings, can work as a catalyst for improving linguistic knowledge of the learners.

The role of feedback by teachers in the form of comprehension checks and repetition of the student's utterance without errors, when student makes mistakes, has been emphasised (Blake, 2013; Brown, 2007; Kirsch, 2008). To this end, and to achieve successful acquisition, information gap is a required condition (Blake, 2013).

An example of a methodology based on the interactionist approach is the focus on form (FonF) instruction that is in the form of a task based syllabus, in which students cooperatively work on tasks, in a process of active participation and negotiation of meaning focus on their linguistic misunderstandings, and analyse their errors (Blake, 2013). Although the interactionist approach pays particular attention to learner's mental as well as social processes (Brown, 2007; Kirsch, 2008), it is mainly concerned with mental aspects of learning. This model has thus been criticised by Vygotskyan theorists for the distinction it has made

between the individual and context or competence and performance as two independent dimensions, and for the transmission view that interactionism holds about learning (Kirsch, 2008).

Returning to the discussion of CLT, some believe that FonF instruction is a kind of tasked-based syllabus within the old version of CLT, while the task-based instruction (TBI) and content-based instruction (CBI) that are regarded as the strong versions of CLT are based on socio-cultural theory (Kirsch, 2008; Magnan, 2008).

As was discussed in the preceding sections, in the context of 21st century focus of classroom instruction has shifted towards providing students with opportunities to develop their communicative competence. To provide a definition of communicative competence for learners, Savignon (2005) considers the socio cultural knowledge of the given context of which languages are a part as the crucial requirements. And to achieve the communicative competence by learners, she believes, the socio cultural differences should be understood and taken into account in the selection of methodology. I close the discussion in this section with a quote from Sullivan (2000) who expressed a similar concern:

> *If we are going to approach CLT and communication from a socio-cultural perspective, we cannot assume that values that underlie CLT are universal. We must take into consideration*

> *cultural, historical, and institutional factors on a local level'* (p. 120).

Such a shift of attention from innate to social and from universal to local was prompted by and was indicative of a shift toward a post method era in language pedagogy.

2.2.9 Post-methods Era

> *Effective teaching is not about a method. It is about understanding and implementing principles of learning.* (Brandl, 2008, p. 1)

As can be seen from the survey of the approaches and methods presented in this review, the field of second or foreign language teaching has undergone many changes over the past century. Over the years many methods have come and gone out of fashion. Although in the1970s and 1980s, there was a huge motivation for methods, recent developments and trends that began in the past two decades in L2 pedagogy have contributed to a shift towards what is now commonly known as the 'post-methods era' (Richards & Renandya, 2002). The reason for this shift according to Pishghadam and Mirzaee (2008) was the theoretical effect that the shift from modernism to postmodernism in Arts and Science was having on language education. Such principles as the

rejection of universal models and the emphasis on localisation or context-specific models, along with elements such as social constructivism, and pragmatism have found their way into the SLA field (Kumaravadivelu, 2006; Pishghadam & Mirzaee, 2008). Consequently, from the point of view of socially based theories of language learning and the recognition of the notions of situated learning and the social and cultural specificity of the learning context inherent in social constructivism, and changes in the roles of teachers and learners, what Brown (2007) calls the 'decline of methods' started. Kumaravadivelu (2006) describes the shift in view to methods in the post method era:

> *The concept of method has only a limited and limiting impact on language learning and teaching, that method should no longer be considered a valuable or a viable construct, and that what is needed is not an alternative method but an alternative to method* (p. 67).

This is consistent with the widely held view that applying a one-size-fits-all or best methods approach is inadequate (Brown, 2007; Ellis, 2012). As an alternative to the primacy of methods, it has been suggested that teachers should be encouraged to construct their own context-specific post method pedagogy (Brown, 2007; Kumaravadivelu, 2006). To develop such a post-method pedagogy, Kumaravadivelu from the

perspective of local demands believes that the specific contexts, specific learners and teachers, specific relationships between the teachers and the learners, and the specific pedagogical goals, should be taken into account. He believes that failing to consider these particularities is failing to consider lived experiences. Based on this assumption he went on to propose a framework as a guide for teachers to develop their own context-specific pedagogy. The framework consists of three parameters:

- **Particularity** is the recognition of the particularities (social, linguistic, cultural and political) of the given contexts.
- **Practicality** refers to the practical theories that teachers generate based on their knowledge of SLA, and their observation and lived experience of the classroom practice, and the interaction between their theory and practice.
- **Possibility** concerns the recognition of the socio-political awareness or identity of the participants (teachers and learners) while seeking identity reframing and social transportations or reforms.

Based on the principles of particularity, practicality, and possibility, a locally and situationally relevant post-method pedagogy, as suggested by Kumaravadivelu (2006), encompasses ten macro-strategies that are

associated with the current research and practice:

> *They are (a) maximize learning opportunities, (b) facilitate negotiated interaction, (c) minimize perceptual mismatches, (d) activate intuitive heuristics, (e) foster language awareness, (f) contextualize linguistic input, (g) integrate language skills, (h) promote learner autonomy, (i) ensure social relevance, and (j) raise cultural consciousness (p. 69).*

Kumaravadivelu defines these macro strategies as general principles, based on which teachers can design their own micro-strategies and generate their own methods and techniques based on their own experiential knowledge and that best match with their local goals, values, and needs.

While this may sound very theoretical, the purpose and importance of these three frameworks and their associated strategies, as discussed by Kumaravadivelu (2006), is to provide general principles that could guide teachers in various situations and settings with their decisions and design of their own context specific pedagogies, rather than offering methods. Because, as he argues, '*any actual post-method pedagogy has to be constructed by teachers themselves by taking into consideration linguistic, social, cultural, and political particularities'* (p. 69).

Decline of methods is a response to the shifts in view to roles of

teachers and learners, and different views to language teaching/learning processes (Richards, 2002). Teachers are no longer regarded as the passive recipients of the prescribed methods, but rather, are considered as the action researchers and active creators of their teaching activities based on their understanding of the processes of teaching and learning (ibid). Richards and Rodgers (2014), however, underscore the fact that alternative approaches and methods, drawn upon collective experience and practice, have played essential role in developing SLA profession. They believe that pedagogic choices by teachers are most effective when they are informed by a range of methods, approaches and theories available. Richards and Rodgers recommend that teachers come to study and learn about different approaches and methods, and develop understanding of how theory is actually linked with practice, to guide their pedagogic decisions in the classroom. In their view, knowledge of a variety of established approaches and methods could lead teachers to develop their personalised methods and techniques with adaptation or adjusting those approaches and methods based on their own classroom realities.

In the same vein, Larsen-Freeman (2000) used the term 'principled eclecticism' to describe the way teachers practise and create their own teaching methods '*by blending aspects of others in a principled manne*r' (p. 183). Similarly, Brown (2007) suggests that teachers take a

'*cautiously, enlightened, eclectic approach*' in constructing their own principles or theory based on their knowledge of second language pedagogy (p. 19). As such, to construct a post-method pedagogy according to the realities of their classroom, teachers are expected to be able to use a variety of methods, means, procedures, activities and take into consideration different dimensions of teaching and learning practices including explicit and implicit, top-down and bottom up, accuracy and fluency to adapt to students' needs and desires, to develop communicative competence and to promote communicative language use that is the ultimate goal of language learning.

In the post method era, CLT has undergone attacks for not being a culturally universal approach and that as a product of English speaking countries (mainly Britain and the U.S.A.) reflects the ideological norms and particular views of those countries (Richards & Rodgers, 2014). Critics, according to Richards and Rodgers, argue against the attempts made to establish CLT in some non-English speaking countries and consider it as an imperialistic effort to reinforce foreign cultural norms assumed superior to the traditional education systems of other countries. The base for these arguments is the view that the assumptions and principles of CLT maintained by the English speaking countries could not be applied in various social, cultural and ideological contexts of language use. Savignon (2005) maintains that central to CLT is the

understanding of diverse socio-cultural, political and historical context of learning, as well as the analysis of socially defined language learner needs and learning strategies and styles in a given educational setting. However, Richards (2002) states that CLT continues to be the mainstream approach in SLA today, and its survival is because it encompass an extensive array of 'general and uncontroversial principles' and assumptions that enables it to offer a variety of teaching learning procedures and techniques in the classroom (p. 5). Today a wide range of current mainstream approaches, such as content-based instruction, task based instruction, genre based (text-based) instruction, cooperative language learning, discourse based, project based, problem based, literature based, competency based, or standards based instruction etc. fall under the umbrella of CLT (Hinkel, 2006; Richards, 2002).

From a historical approach to developments in language pedagogy, Stern (1992) highlights three factors contributed to language education: '*innovation through change in teaching methods, innovation through language related sciences and research, and technological innovation'* (p. 6). As Duff (2013) puts it: '*CLT is evolving in response to contextual constraints, priorities, technological possibilities, and preferences'* (p. 27). Therefore, an important source of change in recent years, has been the rapid advancement in the development and use of the new information and communication technology (ICT) that has transformed

the nature of communication in the 21st century and in turn has reshaped our perceptions of the nature of language and communicative competence for the purposes of language teaching and learning (Duff, 2013; Kern, 2006; Larsen-Freeman & Anderson, 2011; Nunan & Wong, 2005; Stern, 1992). These changes have increasingly acted as a driving force for developing a technology-based pedagogy in a beneficial way (Chapelle, 2005, Kern, 2006). This has established new expectations towards language teachers, as they are expected to be able to use and handle effectively technological media to provide in-classroom or out of classroom learning opportunities as well as having the knowledge and skills of developing innovative pedagogies to enhance learning experiences (Chapelle, 2009; Larsen-Freeman & Anderson, 2011).

The second part of the review of literature will review the literature regarding the integration of technology in language pedagogy and the related issues and challenges. It also seeks to investigate various perspectives on the phenomenon and to conceptualise technology-integrated foreign/second language pedagogy in a way that can inform practice. The latter part of the next section will focus, in particular, upon the role of teachers concerning the integration of ICT into language teaching and their contribution to the success or failure of the programme.

2. 3. ICT and change in English language teaching

> *We live, work, learn, and play in a rapidly changing communication landscape. How do these changes affect the ways we learn, use, and teach languages? (Kern, 2006, p. 183)*

The expanding presence and influence of communication and information technology (ICT) in various aspects of our life has created new communities and new competencies. Competencies that people need to develop in the era of information and communication technology include possessing functional technology literacy, critical thinking, problem solving, and interaction and co-construction and negotiation of knowledge in the virtual environments; to be able to communicate with others in processes of reading, writing, browsing, sharing, posting, commenting, and editing (Blake, 2013; Duff, 2013).

Kern's quote includes a key question that surrounds contemporary research into the use of technology in foreign/second language pedagogy. In this part a review of the literature will be presented specifically on the ICT integrated foreign language education with reference to the question raised by Kern. But for the purposes of this study, it may be worthwhile to start this section with a basic introduction of the term ICT.

2.3.1 The nature of ICT, trends and possibilities

The term ICT stands for information and communication technology. As can be drawn from Kern's statement, it embraces a range of technical means from hardware (desktop computers, laptops, netbooks, tablets, mobile phones, projection technology, data logging and digital audio and visual equipment), software applications (generic software, multimedia resources) to information systems (Intranet, Internet, cloud computing) (Hennessy, Ruthven, & Brindley, 2008). To date, these technologies have been used in education in a variety of ways, and have created multiple educational possibilities. Currently, ICT falls under a range of headers including multimedia teaching, computer-mediated communications, ICT-enhanced learning, computer-enhanced or technology enhanced learning, computer-assisted learning, online or e-learning and distance learning, among others (Punie, Zinnbauer, & Cabrera, 2006).

A great deal has been written about the use of ICT or technology in education in general and language teaching in particular, and inevitably there exists a large and often contradictory variety of approaches and attitudes among commentators about the impacts of ICT in education as well as some disagreement as how it should be used to achieve the best results (Davison, 2005). What is agreed, however, is that the rapid

advancements in ICT and evolutions of pedagogical approaches has brought about a paradigm shift in research in education and pedagogy. It has created opportunities for a development in the theory and practice of teaching and learning (Littlemore & Oakey, 2004; Punie et al., 2006; Thomas & Reinders, 2010). As Thomas and Reinders (2010) put it, '*over the last twenty years, CALL has moved from an earlier "structural" or "behaviourist" phase, through "communicative" CALL to a third "integrative" stage'* (p. 5). They stressed the significant role and power of ICTs in language education evolution, and argued that language education has always adapted to the new technologies, the use of audio technology, notably cassettes and language labs were the underlying requirements for the audio-lingual methods.

Larsen-Freeman and Anderson (2011) from a perspective to technology 'as providing teaching sources', believe that technology has always been an important part of language teaching, citing instructional tools of the early ages like chalkboards, slides, audio (tape, disc, voice), video and film (tape, disc) that have been replaced with the recent digital technological media at the disposal of teachers and students (p. 199). From a perspective of technology as '*providing enhanced learning experiences'*, they argued that technology does not just act as a tool that provides resource or authentic material available to teachers, but can provide learners with greater input contact and sufficient opportunities

for meaningful interaction and output especially in the foreign language learning contexts in the absence of sufficient meaningful interaction and input. Technology, as such, may be a powerful teaching-learning tool in and out of the classroom for teachers and learners. But to fulfil its promises, technology needs to be effectively integrated into the curriculum, and just because it is added to the classroom does not mean it can enhance foreign language teaching and learning processes (Larsen-Freeman & Anderson, 2011). But Larsen-Freeman and Anderson were not the only ones who raised such a concern. Kern (2006) called for a consideration of the significant role of the teachers' pedagogical aims and beliefs in a technology mediated language curriculum: *'that is not technology per se that affects the learning of language and culture but the particular uses of technology. This emphasis on use highlights the central importance of pedagogy and the teacher'* (p. 200).

Blake (2013) offers a similar perspective on the issue in a discussion of web-based pedagogy and argues against the view that '*technology [by itself] constitutes its methodology'* and holds the view that without a clear, straightforward pedagogical framework, technology '*abandons the student to nothing more than a series of navigable resources (URLs) accompanied by fill-in-the-blank exercises'* (p. 39). He suggests that like other instructional resources, teachers need to ask themselves what they want students to do with the internet.

By the same token, for effective technology integration in the foreign language curriculum, research and practice should be guided by theoretical and conceptual models (Blake, 2013; Kern, 2006). The appropriate theoretical framework for technology mediated language pedagogy and research, however, as argued by Kern (2006), is another controversy in the field. The following section considers the discussions that lead us to find a theory for analysis and study of ICT integrated language learning.

2.3.2 Theoretical framework: socio-cultural activity theory

In the brief survey of the SLA theories in the first part of this literature review, a variety of established methodological approaches and theoretical frameworks that could provide grounds for the practices and research studies into foreign language education were briefly described and discussed. All of these theoretical perspectives and approaches that our predecessors and contemporaries left for us make a significant contribution to our understanding of the processes of language learning and teaching.

However, as can be seen from this discussion of theoretical perspectives, in the current paradigm shift in foreign/second language education, SCT as a well-established theory that simultaneously considers mental and social factors in learning is relied upon as an

appropriate theoretical framework for investigating the learning process. Based on SCT, learning may be contextualised by collaborative activities and tasks, and be mediated by semiotic tools like language and other mediating tools. In this view, besides other mediating tools such as technology, language not only functions as a medium of communication but as a psychological tool that mediates learning (Lantolf, 2006). Within this framework, strong versions of communicative language teaching (CLT) were discussed as approaches that could provide an effective base for foreign language teaching. Strong versions of CLT, such as TBI and project based instruction, stress language as a communicative tool and as a mediating tool for learning, rather than merely being an object of learning. From an Activity Theory (AT) perspective, ICT is considered as another tool that by providing the means and ground for interaction of humans with their environment, mediates educational interaction, and promotes collaborative learning (Lamy & Hampel, 2007; Magnan, 2008).

There are researchers such as Chapelle (2005), who is regarded as one of the first who called for the application of SLA theories to computer assisted language learning (CALL). Blake (2013) too argued for exploring technology-assisted language learning research and practice exclusively within an interactionist approach. Kern (2006) viewed these positions as reductionist, and argued that the main criticism

targeted at some of these SLA approaches is that they are not responsive to a variety of socio-cultural pedagogical contexts. Likewise, Ellis (2003) criticised the interactionist model as a narrow approach to frame research into ICT mediated language learning. Ellis argued that the interactionist model, informed by a cognitive paradigm, views interaction as '*the means by which input is available to the black box [that is human mind] or as an opportunity for producing output'* (175). In contrast, SCT with its emphasis on learning through communication, interaction, collaboration, dialogue, co-construction of knowledge, and situated learning has been claimed to provide an overarching frame for understanding ICT integrated language education (Kern, 2006; Lamy & Hampel, 2007). Davison (2005) considers the utilisation of ICT as a dynamic social phenomenon like that of language, and argues,

> *To understand the rapidly evolving and changing uses and potentialities of IT in English language teaching, what is needed is an overt socio-cultural and critical analysis of the roles and applications of IT in English language teaching' (p. 4).*

In his comprehensive literature review, Kern (2006) cites a substantial body of computer-mediated communication studies grounded in socio-cultural theory and argues that recent research indicates an increasing interest in this theory and its implications for classroom instruction. The

reason, as he argues, is that SCT deals with '*the social and cultural situatedness of learner activity, learners' agency in co-constructing meanings (as well as their own roles), and the importance of mediation by tools and signs'* (p. 187). He argues that research in the last decades has reduced the application of technology in learning to a simplistic cause and effect formula. In contrast, the new trend in research is to explore the interplay of various elements including participants (teachers, learners), materials, technological tools, pedagogical approaches, activities, and the specific socio-cultural contexts of learning.

Lantolf (2005) believes that SCT, as a theory of mental and social learning, can respond to a variety of questions regarding people engaging in concrete activities, such as who is doing what, and when, how, where and why an activity is performed. These questions, as he argues, are associated with the motives, subjective feelings, goals and purpose of human actions and their relationship or interaction with the society, context and situational factors, and these constitute key aspects of the activity theory (AT).

AT has provided a lens to study innovative changes in educational contexts, such as the introduction of new technology and its mutual and multidimensional impacts such as the interconnectedness of teachers' knowledge, beliefs and perceptions toward the new artefacts and their

actual classroom practices (Murphy & Rodriguez-Manzanares, 2008). AT, as such, seems appropriate as a foundation for an ICT mediated communicative language teaching as it is 'particularly fitting to analyse interactions between a learner, a task, and a technology' (Caws, 2012, p. 99). Murphy and Rodriguez-Manzanares (2008) cite a substantial body of technology mediated studies in which AT has been applied to provide insight into various aspects of the utilisation of technology in education: participants (teachers, learners), activities (learning tasks, teaching practices), contents, tools, context of the study (micro: the individual organisation, macro: the broader socio-cultural setting).

In the present study, AT has been chosen both as guide to provide a theoretical ground for the discussions concerning the integration of ICT into foreign language education, and as a framework for understanding and analysing the phenomenon under study.

2.3.3 ICT in foreign language education research

Kern (2006) argued that a huge number of current research studies that are concerned with technology use in language learning mainly focus on three areas:

- **Technology as tutor**: ICT as tutor can provide students with '*instruction, feedback, and testing in grammar, vocabulary,*

writing, pronunciation, and other dimensions of language and culture learning' (p. 191).

- **Technology as tool:** technologies can be used as tools to assist teachers and learners with easy access to textual and audio-visual materials in the target language. A number of technological tools such as DVD player, radio, MP3 or MP4 players, Interactive Whiteboards, television, mobile phones, and computer peripherals, can provide access to resources and multimedia, with software offering students the opportunities for reading, listening, writing, grammar exercises, checking spelling, grammar, and pronunciation, having access to online dictionaries, and doing research.
- **Technology as medium:** in the medium role, ICT is recognized as a communication tool. A wide range of ICT tools can provide opportunities for social network environments for participation and communication, online or virtual learning, digital dissemination, and development of the online identity.

Although the focus of ICT research was initially on tutorial applications, in recent years, the focus of research has shifted to the role of technology as a medium and huge number of research studies, currently, centre on the medium role of ICT in education. These studies according to Kern

(2006), can be divided into three sub-areas:

- Computer mediated communication (CMC)
- Electronic literacies
- Tele collaboration

This classification, according to Kern, indicates the influential position of sociocultural theory and its relevant SLA theories in discussions of technology-mediated language learning.

2.3.4 Potential benefits of technology in FLE

It is argued that even in the EFL classrooms with the most communicative approaches, given the limited time available, and the limited opportunities to interact with native speakers, students have little opportunity to interact in English (Blake, 2013; Chang, 2011). Also due to the lack of sufficient exposure to authentic language and context, foreign language classrooms are unlikely to develop learners' communicative skills in the target language (Chang, 2011). It has been argued that the use of media and technology can play an effective role in increasing the communicative competence in learners (Littlemore & Oakey, 2004; Muttaqin, 2010); this could be due to the fact that technology and multimedia have the capacity to provide the exposure to authentic language and enhance learning by providing opportunities for

developing communication skills (Larsen-Freeman & Anderson, 2011). It is argued that ICT has the potential to provide the opportunities for students and teachers to communicate within their own community or with the outside world beyond the restrictions of time or place (Blake, 2013; Larsen-Freeman & Anderson). This could be possible through social networking websites (Facebook and twitter for example), emails, online discussion rooms and wikis, blogs, and online chat rooms (Blake, 2013; Larsen-Freeman & Anderson, 2011). Blake (2013) cites substantial evidence in the literature that support technology mediated communication and the effective roles it can play in the process of language learning; the advantages of CMC are outlined in these studies as:

> *a text-based medium that amplifies students' attention to linguistic forms; (b) a stimulus for increased written L2 production; (c) a less stressful environment for L2 practice; (d) a more equitable and nonthreatening forum for L2 discussion; and (e) an expanded access channel with possibilities for creating global learning networks (p. 4).*

Additionally, technology can increase students' motivation, and provide the opportunity for learners' self-directed learning and sense of autonomy as ICT, according to Thorne (2006), affords them '*personally*

meaningful communication in the service of goals that extend beyond "practice" or "learning" in the restrictive sense associated with institutional settings' (p. 14). In addition, through the utilization of ICT, learners and teachers could enjoy the flexibility of the material being taught, and its repeatability as many time as they wish (Davies et al., 2005; Larsen-Freeman & Anderson, 2011).

However, as was discussed in the preceding sections, technological tools 'are not self-determining agents' and just adding them to the classroom does not necessarily exert a significant positive influence on FL learning (Blake, 2013, p. 132). Successful integration of ICT into FL classroom is influenced by a number of factors. The next section provides an account of these factors, and its following sections draws upon the literature to examine how these factors could impact ICT integration in schools.

2.3.5 Factors influencing ICT implementation

From a perspective of technology use in language education as an innovation, Davison (2005) drawing on Fullan (2003) and Stoller's (1997) distinction between innovation and change, argues that change is 'unplanned' and inevitable, and does not necessarily lead to improvement; while innovation is promoted by 'planned' programmes and activities aimed at improvement or progress (p. 6). However, based

on the literature, he points out that while planning is essential to the success of an innovative programme, planning alone does not guarantee success. Fullan goes on to address the question of '*why some innovations are successful but so many others fail*' (p. 6). The answer as suggested by Fullan (2007), relies on an understanding of the meaning of change. 'What' of change or the content of change including for example, applying recent pedagogical theories and approaches, or application of technology in education, and the 'how' of change i.e., strategies that make the intended change/improvement easier, are two essential aspects of educational change. As Fullan (2007, 2013) suggests, putting policies into place do not automatically lead to successful change, and considers change knowledge as an essential factor to achieve innovation. In addition, he places considerable emphasis on the need to know how people conceive change and the factors and processes that account for change. He argues that an understanding of both the small snapshot and the bigger picture allows for a better understanding of the phenomenon of change.

The small picture, as identified by Fullan (2007), *'concerns the subjective meaning or lack of meaning for individuals at all levels of the education system'* (p. 8). Also recognition of the broader picture, in his view, is important, '*because educational change after all, is a socio-political change'* (p. 8). He goes on to conclude that the meaning of

change could be understood in relation to the elements at personal and collective levels (this will be explained further in this section). Although Fullan (2007) discusses system-wide change in the wider area of education, such a multi-dimensional approach to change in the specific domain of incorporation of technology in FLE is well documented in the literature. For example, Davison (2005) and Heo and Kang (2009) recognise that the quality and level of ICT mediated FLE at schools may be influenced by several factors at three levels: macro level, meso level, and micro level (see Figure 2.2). They believe that an aim-driven attempt to implement ICT effectively in FLE requires a consideration of these factors. A brief introduction to these factors is provided in the following.

Macro level is the highest level (global/national) in which socio-cultural norms, policies, economic forces and technological advances affect the integration of ICT. At the meso level, the local institutions (schools, organizations and universities) are involved in the use of ICT in educational practice. This could be regarded as the intermediate between macro and micro levels. Micro level refers to the target community, and the ICT use at this level is impacted by the two higher-level factors as well. At this level ICT indicators at individual level such as perceptions and attributes of teachers and students, and teaching practices are considered. Likewise, literature on ICT integration in foreign language education (Afshari, Kamariah, Luan, Abu Samah, &

Foo, 2009; Chen, 2008; Dashtestani, 2012; Hennessy et al., 2008; Heo & Kang, 2009; Park & Son, 2009) has indicated several factors affecting the uptake of ICT in schools. Some of the major factors are: organizational support, availability of ICT tools, fund, technical support, time, students' personal attributes, teachers' positive or negative attitudes and perspectives, teachers' technological competence and teacher training. All these factors are interwoven and no single factor is responsible for the success or failure of ICT integration in schools (Afshari et al., 2009).

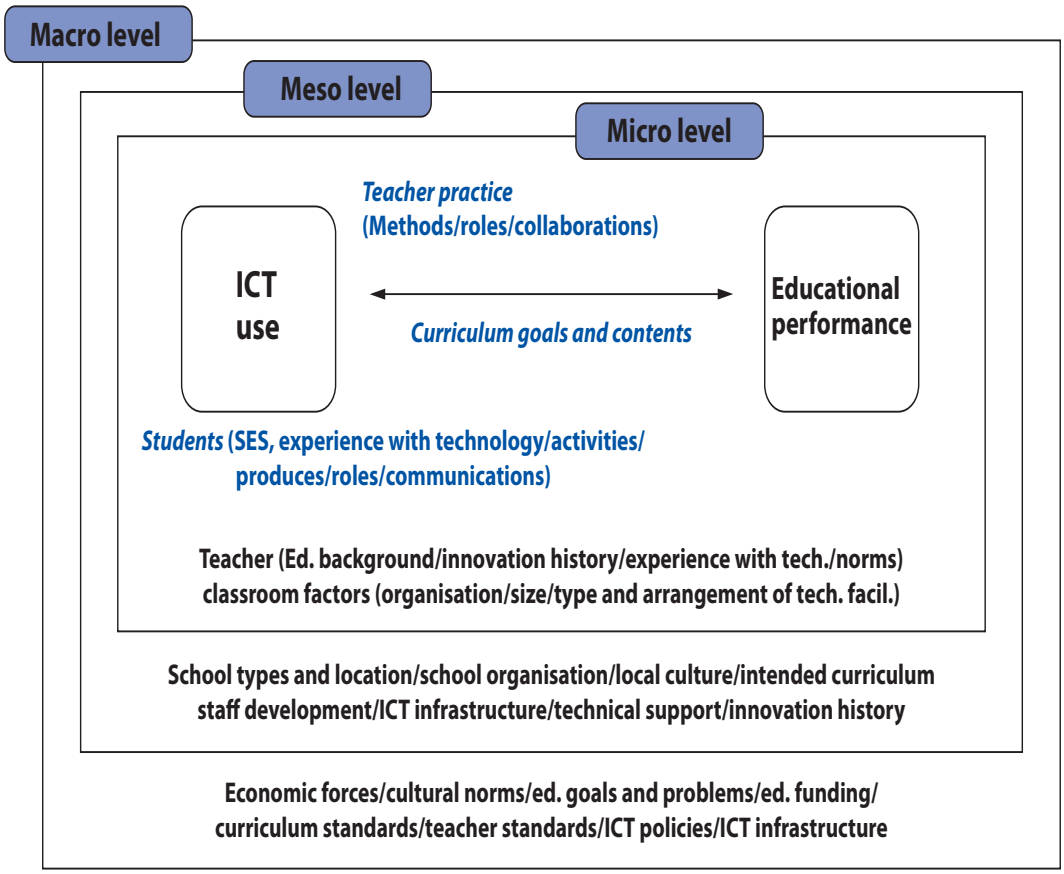

Figure 2-2 The conceptual framework of ICT use and educational performance (Heo & Kong, 2009, p. 192)

The implications of such a multi-dimensional view to educational change, as argued by Fullan (2007) is that while values, norms, objectives, rules and the outcomes of specific educational changes should be taken into consideration, because the educational change is a dynamic process affected by socio-political processes in their social context, attention also should be paid to the interactive relationships between all kinds of factors at individual, local and national levels as a 'system of variables' (p. 86). Therefore, these factors do not exist -and should not be considered- in isolation from each other. Fullan calls this 'shared meaning' and argues that an understanding of the shared meaning of change is the key to success or failure of any reform: '*the interface between individual and collective meaning and action in everyday solutions is where change stands or falls'* (p. 9).

This view of the system reform, as argued by Fullan (2007), contrasts with the either a top-down 'or' a bottom-up approach, and he suggests that to achieve a successful reform, what is needed is a combination of both top-down and bottom-up approaches to exploit the merits of both:

> *Top-down change doesn't work because it fails to garner ownership, commitment, or even clarity about the nature of the reforms. Bottom-up change so-called let a thousand flowers*

> *bloom-does not produce success on any scale. A thousand flowers do not bloom, and those that do are not perennial! The strategies that are needed have a "bias for action" and pursue this by reconciling and combining top-down and bottom up forces for change. (p. 11)*

It could be beneficial, however, to interject that the main argument of Fullan (2007) is centred on the stakeholders or the individual meaning of the change and discusses that while change occurs at personal level, the collaboration of the various stakeholders and the encouragement and support that institutions and organisations provide for individuals, say teachers, are essential to the successful innovations.

Fullan considers integration of ICT into education as a constant innovation process, and among other factors, places so much emphasis on the role of teachers from the perspective of innovation agents for implementing ICT pedagogy.

Fullan (2013) points out that technology has had an enormous impact on every sector of today's society except for education: '*despite the astounding and abounding creativity and ubiquity of technology in the world at large, it is barely showing up in schools*' (p. 36). Despite the high-tech enthusiasm and latest reforms aimed at integrating technology in schools, there seems to be no progress. Latest studies

indicate that teachers resist change. Moeller and Reitzes (2011) observed 'only 8 percent of teachers' actually incorporate technology in their teaching practices; and 'only 23 percent of teachers' felt they might be able to implement technology for pedagogical purposes (p. 5). But, why do teachers do not embrace change? Blaming teachers for resisting change is not limited to the recent technology integration reforms; Fullan (2003) documents that over the past 40 years '*external ideas did not find their way into schools, and even if they existed or got there, they did not flow across classrooms'* (p. 4). To explore the reasons for this, Fullan (2003, 2007, 2013) suggests that it is all the more important to have a closer look at the conditions of teachers and how they view their profession.

One of the central concerns that is reflected in most of Fullan' s works on reform and change, is declining morale in teachers. He argues that in the context of North America, in the last two decades or so, teachers conditions have got increasingly worse that has resulted in growing dissatisfaction among teachers with their work and their leaving or willing to leave the job (Fullan, 2003, 2007, 2013). The reason for this, as suggested by Fullan (2003) is that '*the basic working conditions of teachers did not change to enable them to become fully engaged'*, and the external pressure and top-down mandates, per se, were not intended to improve this situation (p. 3).

Fullan argues that 'engagement and efficiency' are the two important things that the educational system needs if it wants to integrate technology effectively (Fullan, 2013, p. 17). The reasons that teachers are not engaged, and do not efficiently work as change agents is that the reality of educational standards and the necessity of change is not clear for teachers and schools. And they are not convinced that change is really needed. On the other hand, teachers who have got used to and feel comfortable with the traditional and out-dated ways of teaching practices would view innovation as a disruptive and unwanted annoyance (Fullan, 2007, 2013). Most teachers are concerned about the increased demands of the new change, and believe that policy makers fail to consider the lack of time and the huge workload in schools and the preparation of materials that teachers are grappling with. Frequent change, as Fullan (2007) argues, is challenging and associated with anxiety, stress, strive and loss. In addition, lack of support, preparation by teacher training, and lack of time and the huge sum of professional works, as complained about by teachers, just fuels the anxiety and dissatisfaction among teachers. It is reported that in most schools the existing pattern and norm is that teachers make decisions and operate in isolation with no or limited connection with colleagues (Fullan, 2007). Fullan (2013) points out, '*teachers are largely on their own when it comes to figuring out how to use technology to enhance learning*' and concludes '*this is more*

disturbing than it seems because what looks like progress really isn't' (p. 37).

Fullan argues that it is crucial for teachers to collaborate in problem solving, share knowledge, and exchange ideas with other change agents at school or at the local level including teachers, head teachers, students, district administrators, consultants, and parents in efficient ways; and believes that without such cooperation and keeping on with working in isolation, change could not actually be achieved. Teachers may resist change because they are not invited to participate in decision making and they feel themselves as puppets of policy makers, they feel these policies are not their choice, not have a voice in the daunting task that they are required to do (Fullan, 2007). After all, they might view the change as an opportunity of moving forward, and be willing to accept it, but they do not have enough capacity to implement the top-down mandated innovation:

> *Engaged students, energetic and committed teachers, improvements in problem solving and thinking skills, greater emotional intelligence, and, generally teaching and learning for deeper understanding cannot be orchestrated from the centre. (Fullan, 2003, p. 3)*

He views the growth of education and particularly technology as

weed-like; it has grown wildly and aimlessly, and believes that the current education system requires change '*because many teachers are frustrated, bored, and burned out'* (Fullan, 2007, p. 138). And unmotivated teachers could not provide interesting learning opportunities for learners and engage them. Fullan (2013) proposes a 'skinny' solution to this issue, and suggests that what is needed to move education forward in the 21st century in order to achieve effective innovation in learning is an understanding of the synergy between technology, pedagogy and change knowledge. Technology, as promised by Fullan, while having negative sides, and its own complexities, if implemented effectively by teachers who have capacity to use its potentials, could enhance education.

Offering a similar perspective, Nunan and Wong (2005) view the ICT mediated language pedagogy as an innovation, and believe that language pedagogy similar to other educational innovations occurs at different levels and is influenced by several interrelated factors. They assign the most essential role within this multi-level factors to human factors, and go on to suggest that teachers have the most determining role in the success or failure of such an innovation:

> *At the heart of an innovation in education are the teachers who implement changes in the classroom. Their attitudes and beliefs*

> *directly affect their behaviour in the classroom. They are critical to the implementation of innovation. If teachers are not thoroughly involved in the implementation of innovation or they resist change, any attempts are unlikely to be successful (p. 197).*

Likewise, in his discussion of the CALL literature and the relevant issues, Kern (2006) described the interconnectedness of technology and foreign language teaching as a complex phenomenon that without reference to its participants' and particularly teachers' roles, evaluating the effectiveness of it would be a 'decontextualized measure' (p. 189). As he puts it:

> *Broad semiotic perspective puts the accent on learners' agency and teacher rather than on the effect of technology itself. Questions of overall effectiveness limit us to yes-no-maybe answers that are sometimes hard to interpret without thick description of the context, content, people, and procedures involve (Kern, 2006, p. 189).*

The importance of the teachers' role can be found in the statement of Fullan (2013) who based on literature in America and Canada maintained that teachers' role in some aspects is more significant than students' 'because each teacher affects, for better or worse, between 25

and 150 students per day' (p. 30). Accordingly, it seems reasonable to state that while the availability of technological tools and their affordances along with other factors seem to be essential in enhancing or limiting learning opportunities, teachers' perspectives towards these technical artefacts are more important than the given technological tools for integration of ICT in language pedagogy to be materialised (Lamy & Hampel, 2007). This perspective supports Kern's (2006) and others' calls for research into the teachers' roles and their perceptions and perspectives on technology use in education. This will be further discussed in the next section.

2.3.6 Teachers' role in the integration of ICT

> *Educational change depends on what teachers do and think, it's as simple and as complex as that. It would all be so easy if we could legislate changes in thinking. Fullan (2007, p. 129)*

As has been underlined by Fullan in the above quote, and discussed in previous sections, and will be further discussed in more detail in the following sections, for successful design and practice of technology-integrated-FLE, the individual teachers' understanding of how technology can support teaching and learning and their pedagogical decisions are determining factors. Fullan (2013) assigns the most

important role to the teachers in the classroom, and in the discussions of integrating technology to enhance teaching and learning activities, argues, '*teachers are needed, but it is new role that is required--the teacher as change agent'* (p. 25). Kern (2006) argued that successful technology-mediated-pedagogy '*has been repeatedly shown to depend largely on teachers' efforts in coordinating learners' activities'* (p. 200).

Kern's conclusions support a call for descriptive study of individual second language teachers and their experiences in integrating technology. There is a substantial body of evidence that regards teachers' role as a key factor influencing the integration of ICT in education while These studies have argued that the teacher's perspective and attitude towards technology and media is a major factor that influences their pattern of behaviour regarding the initial or future use of ICT in their teaching experiences. For example, Albirini (2006) based on the findings of a study in Syria, highlighted the importance of teacher's attitude and their knowledge of technology in exploiting technology in teaching. On the other hand, there is evidence (Park & Son, 2009; Rahimi & Yadollahi, 2011b) that teachers' positive attitudes towards ICT do not ensure their actual use of ICT in their teaching practices. These interpretations are consonant with some other researchers (Afshari et al., 2009; Hennessy et al., 2008) who have suggested that teachers' attitudes toward technology are related to teachers' ICT literacy. Park

and Son (2009) have found that although teachers had noted strong positive attitudes and enthusiasm for using ICT in their study, they were not able to use ICT in their classrooms due to insufficient ICT knowledge, time constraints, technology anxiety and lack of confidence. As such, it seems a reasonable argument that teachers' attitudes toward using ICT is linked to teachers ICT competence; as teachers who are more competent in using technology, have been shown to be more willing to integrate it into teaching (Rahimi & Yadollahi, 2011a, 2011b; Yucel, Acun, Tarman, & Mete, 2010).

In addition to ICT knowledge and skills, teachers need to have the knowledge of ICT pedagogy. In this regard Baylor and Ritchie (2002) stated, '*regardless of the amount of technology and its sophistication, technology will not be used unless faculty members have the skills, knowledge and attitudes necessary to infuse it into the curriculum'* (p. 374).

This suggests that the knowledge and capability of teachers for meaningful exploitation of ICT for pedagogical purposes is a determining factor, to the effect that if teachers can see usefulness and relevance of these innovational changes from a practical task perspective, they would be more likely to embrace it. As such, teachers need knowledge to achieve the pedagogical goals with ICT (Afshari et al., 2009; Hughes, 2005; Noss, 2012). But what kind of knowledge do

teachers need to have in order to be able to implement technology successfully to enhance learning? In reference to this question, what Hughes (2005) proposes is knowledge of the subject matter, pedagogy, and knowledge of the technological tools and their potential to enhance learning, and more importantly, the relationship they can create between the technological knowledge to the pedagogical-content knowledge. He goes on to suggest that teachers' positive attitudes to and their actual exploitation of technology in their teaching practices is very much linked to their knowledge of the content-specific technology pedagogy. Similarly, based on these three fundamental body of knowledge and their interaction, Mishra & Koehler (2006) proposed technological pedagogical content knowledge (TPACK) as a requirement for effective integration of ICT in classroom. In the following section this model will be briefly discussed.

2.3.7 TPACK: a conceptual framework for teachers' knowledge

Developing or finding the most effective models or frameworks available for the knowledge of the implementation of ICT in education has always been a complex challenge (Fisher, Higgins, & Loveless, 2006). In an attempt to provide a framework for better understanding of the knowledge required for an appropriate use of technology in teaching,

Mishra and Koehler (2006) introduced Technological Pedagogical Content Knowledge (that was originally abbreviated as TPCK and were later changed into TPACK for ease of pronunciation). This is a conceptual model, based on Shulman's (1987) idea of teacher's pedagogy and content knowledge.

Shulman's PCK Pedagogical Content Knowledge (PCK) was a model that discussed the two-way relationship between content and pedagogy, for example, how a specific pedagogical method can promote (or inhibit) students' learning of particular content. Accordingly, by extending the concept of PCK, Mishra and Koehler (2006) argued that central to an effective technology mediated teaching is the interplay of three essential elements of Content, Pedagogy and Technology (see Figure 2.3).

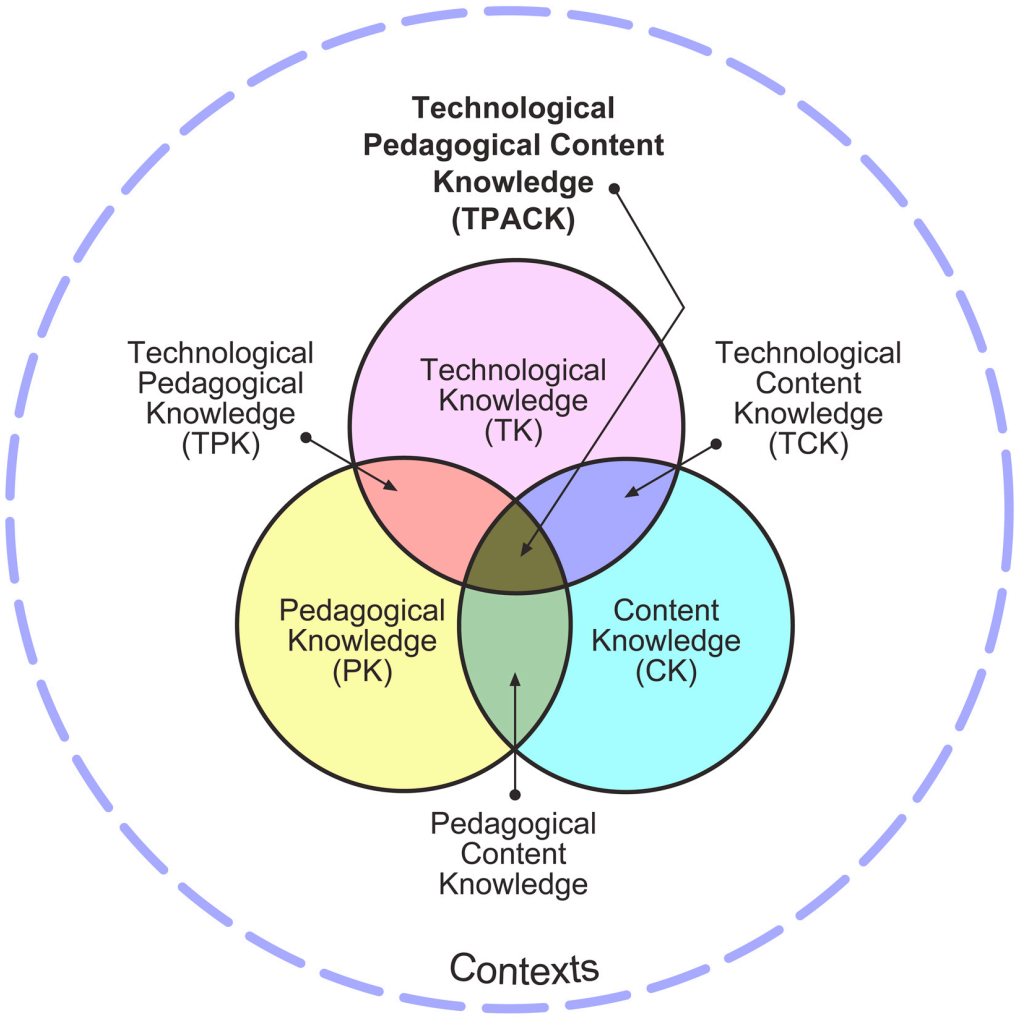

Figure 2-3 The components of TPACK framework (graphic from Koehler & Mishra, 2009, p. 63)

In Figure 2.3, the three circles, Content, Pedagogy, and Technology, interlink to create four more types of interrelated knowledge: three pairs and one triad. The concept of technological pedagogical content knowledge is the central space created by the intersection of:

- **technological knowledge (TK):** Rapidly evolving nature of the technologies makes it difficult to define what technology knowledge is (Koehler & Mishra, 2009). Currently, knowledge of the educational

technologies, however, is defined beyond traditional definitions of computer literacy, i.e. just having the knowledge of how technological tools work and operate (Harris, Mishra, & Koehler, 2009; Koehler & Mishra, 2009). In this view, a computer literate person possesses a deeper knowledge of the functions of existing technologies for various educational purposes and ability to adapt them (e.g. wikis) for achieving given goals (technology enhanced learning) and to adapt and keep themselves update with these ever changing tools (Harris et al., 2009; Koehler & Mishra, 2009). This will be discussed further in this chapter in relation to the discussion of affordances.

- **pedagogical knowledge (PK):** This include knowledge of theories, concepts and strategies of learning, knowledge of the instructional approaches, methods, techniques and procedures; knowledge of the classroom managing and assessment, students needs and learning characteristics and goals, and the ability to apply this knowledge to achieve educational goals in various learning environments and situations (Harris et al., 2009; Koehler & Mishra, 2009).
- **content knowledge (CK):** Content knowledge can be defined as *'knowledge about actual subject matter that is to be learned or taught'* (for example, foreign languages or mathematics) (Mishra & Koehler, 2006, p. 1026). This includes knowledge of the subject -

specific theoretical and conceptual constructs and also knowledge about how this specific knowledge is developed (Harris et al., 2009).

The other three areas produced by the intersection of every two neighbouring circles are:

- **Technological Content Knowledge:** Technological content knowledge links knowledge of content with technology that according to Koehler and Mishra (2009) this is 'a deep historical relationship' (p. 65). Developments in the nature and representation of knowledge in various disciplines such as medicine, physics, etc. has been always impacted by technology in beneficial ways. 'TCK, then, is an understanding of the manner in which technology and content influence and constrain one another' (Koehler & Mishra, 2009, p. 65). Teachers need knowledge of this to decide about the choice of technologies that best support learning of the subject matter (ibid).
- **Technological Pedagogical Knowledge (TPK):** Technological pedagogical knowledge refers to understanding the potential pedagogical benefits and constraints of technology (Mishra & Koehler, 2006). This requires an adequate knowledge of the affordances and constraints of various technological tools and resources and to be able to employ them to make effective changes in pedagogical practices (Koehler and Mishra, 2009).

- **Shulman's (1987) Pedagogical Content Knowledge (PCK):** Pedagogical content knowledge links content with pedagogy and refers to knowledge about how to teach the specific subject matter effectively in order to make it more understandable to learners. To develop better teaching practices in the specific content area, teachers need to link their knowledge of the structure and concepts and applications of the particular content area relevant to students with their knowledge of the learning processes to support their learning (Harris et al., 2009).

Mishra and Koehler (2006) believe that this kind of relationship between the components (content, pedagogy, and technology) constitutes the specificity of their approach. This approach indicates that in order to use ICT effectively for teaching practice in classroom, teachers not only need to be competent in these three areas: content, pedagogy and ICT; but they also need knowledge of the relation and the interaction of these three elements i.e., how these three components can work together for a better achievement in reference to their specific needs and context (Koehler, Mishra, & Yahya, 2007).

Context is a variable that can significantly affect teachers' decisions and their teaching practices. Teachers' practices are bound by the context in which they operate (Davison, 2005; Koehler & Mishra, 2009). Within the classroom, collaboration and interaction between teachers

and students; and within the broader institutional and societal level, socio-cultural and political factors as well as the institutional factors (the limitations or supports that institutions provide, time, training, curriculum design and goals, and availability of ICT infrastructures) are the contextual implicit or explicit factors that will influence teachers' ICT exploitation (Davison, 2005; Koehler & Mishra, 2009).

TPACK, while not unchallenged, was embraced with increasing interest by many researchers and interest groups. It could be used as a useful model for technology and media use in teaching practice. It could be considered for improving the knowledge of the teachers in pre-service or in-service teacher training programmes. Cuban (2001) investigated teachers' technological practices in America and found that regardless of the availability of a wide range of ICT tools, many teachers did not incorporate them into their teaching practice, and the teachers who carried out their instructional practice with some ICT use, had, indeed, '*adopted an innovation to fit their customary practices, not revolutionize them*' (p. 97). Similarly, Tseng, Cheng, and Lin (2011) conducted research to understand the interplay between these three key components -technological pedagogical content knowledge- in computer-assisted language learning (CALL) in a Taiwanese setting. They reported that (in the presence of ICT infrastructures) teachers' technology use in classrooms was highly influenced by, or adapted to their pre-existing

pedagogical practices. The following section will investigate literature into the role of pedagogy in the ICT-mediated educational programmes and the relevant issues.

2.3.8 The important role of pedagogy

> *What is missing for most students is the new pedagogy that would enable them to find and pursue their passion, purpose and play ..., work with a team to study, understand, and help address real-life problems and develop their talent through perseverance and constructive feedback.* Fullan (2013, p. 27)

As was discussed earlier in this chapter, the literature on the use of technology in language learning has repeatedly emphasised that the successful integration of technology as a medium for language teaching and learning depends on how it is put into practice rather than the technological tool itself (Nunan & Wong, 2005). But it has been frequently recognised that teachers fail to choose, adapt, or design tasks and activities appropriate for the new technology mediated learning environment, and they simply transform the traditional methodological practices or activities and tasks that they are comfortable with to the new environment, without modifying them for this purpose (Lamy & Hampel, 2007).

Choosing appropriate pedagogy has been a central focus of most recent studies into technology mediated language learning (Davison, 2005). In the context of English language teaching, Davison (2005) argues that much of the work to find the most appropriate and innovative pedagogies to incorporate ICT in English language teaching, similar to that of ELT itself, is widely influenced by Vygotskian perspectives. In the same vein, as can be seen in the previous discussions, it is stressed that the use of technology in the service of a communicative model of FLE has sought to involve tasks and activities beyond carrying out fill-in -the-blank or drill-based technology use similar to behaviourist learning activities. An example of the use of ICT for language learning within the framework of socio cultural theory is provided by Bracey (2000) who explained a project in which her students worked with scientists from the National Aeronautics and Space Administration (NASA):

> *In one NASA project I did with my 4th and 5th graders called Marsville, we connected with other classrooms online to design a Marsville City (www. challengercenter.org/tr/tr_prpro_set.htm). Marsville was a project-based activity where students created a prototype habitat for Mars. The children came together to learn and build their city and make their own living spaces using a variety of interdisciplinary skills. In the process, they learned*

creative problem solving, cooperative learning and data analysis. We studied the systems needed to survive on Mars. We did not just read about it, we did it! It was exciting to see how such a project engaged my immigrant students who were still learning English, and motivated their reading and science learning.

This practice exemplifies the inclusion of a task-based/project-based/activity based and a content-based (in that it is not exclusively a science or English learning programme but has integrated both) approach to teaching and learning English. In this project, drawn on AT and the socio-cultural assumptions of 'zone of proximal development' (ZPD) students work with support from experts (their teacher and scientists from NASA) to actively and co-operatively construct knowledge through 'mediation' of activities that activate their higher level thinking skills, and artefacts (English and ICT are used as symbolic and physical artefacts to learn both English and Science). It is assumed that engaging students in interactional activities and tasks mediated by technology for learning a subject matter (in this study science) and English is likely to be much more interesting and motivating for students than just reading from a text book (Cummins, 2005).

Fullan (2013) suggests that technology could make learning activities highly engaging for students. Rosen (2010) has described

today's youth as an 'iGeneration', and argued that they become familiar with technology at birth. Rosen has further observed that the current schooling is boring for young learners, because the way they learn in schools is different from the way they learn in real life. To engage these students in learning activities and make learning more meaningful and exciting for them, as suggested by Rosen, a competent teacher for example could '*leverage their love of social networks to create educational tools built around them*' (p. 49). But as was discussed earlier in this chapter, integrating technology effectively for pedagogical purposes requires the teacher's knowledge of the affordances of technology. This will be further discussed in the following section.

2.3.9 Pedagogical affordances of technology

In planning and developing a technology-mediated pedagogy, while a defined theory of learning and pedagogical approach seems imperative for teachers, it is important that they have knowledge of the affordances of technological tools (Blake, 2013; Chen, 2008; Kern, 2006; Koehler & Mishra, 2009; Lamy & Hampel, 2007; Nunan & Wong, 2005). Teachers' professional knowledge in general, and their perceptions of the potential benefits and limitations of specific technologies that is at the centre of their instructional decision-making in specific, are influenced by their context and conditions of practice (Blake, 2013; Lamy & Hampel,

2007). The notion of 'affordances' was introduced by Gibson (1979). Based on Gibson's definition of the term, affordances of any technological tool is defined in relation to agents' or actors' perception of its potential actions, rather than the inherent capabilities of the tool itself. Similarly, the term 'affordances' has been identified by Norman (1988) as '*the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used*' (p. 9). From the perspective of technology use for educational purposes, the affordances of technology are the perceived properties or capabilities of those objects by teachers or students (Lamy & Hampel, 2007; Levy, 2009). As such, it has been suggested that each of the new technological artefacts allow different affordances or in other terms, inform different opportunities or even limitations to different people (as agents) in certain environments to perform certain activities (Koehler & Mishra, 2009; Lamy & Hampel, 2007). The physical artefacts (like technological tools) and other social and semiotic artefacts like language and communication for negotiation of meaning are, among others, considered as the constituents of the environment. And the use of artefacts, as such, needs to be designed in conformity with other factors in that context including communication itself for the communication to take place (Lamy & Hampel, 2007)). Accordingly, the choice of technological tools and the way they will be used in teaching and

learning is determined by teachers' understanding of the pedagogical affordances of these tools (Lamy & Hampel, 2007). An example of the application of the notion of affordances in incorporating technology for learning, is provided by Levy (2009) who mentions using apps such as Comment, Track Changes, Bookmark, and Hyperlink to support learning. Similarly, Lamy and Hampel (2007) provide a list for the practical capacity of the web-based media:

- browsing
- artefact creation
- artefact manipulation
- displaying/storing /retrieving artefacts
- displaying/storing/retrieving artefacts
- multimedia (textual/visual/graphic) sharing tools
- interaction by a click
- asynchronous communication (e.g. email, discussion rooms, forums)
- synchronous communication (e.g. text or audio-video chat)
- voice-over Internet (e.g. video conferencing)
- simultaneous use of different channels (e.g. audiographic/video conferencing) (p. 36)

As has been discussed thus far, every technological artefact offer

specific affordances for specific purposes and there is no 'one-size-fits-all' device. An example of such a convention is email that while its use as a means of communication affords storage and retrieving of conversations, as an asynchronous communication artefact, it does not allow for the synchronicity that a telephone or a face-to-face conversation does. '*Nor does email afford the conveyance of subtleties of tone, intent, or mood possible with face-to-face communication*' (Koehler & Mishra, 2009, p. 61). Together, these facts indicate that digital technologies, especially given their rapid evolving, present new challenges to teachers who are struggling to use more technology in their teaching (ibid).

We have come full circle: the significance of the role of teachers, their perceptions and their ICT competencies. However, an understanding of these affordances and limitations of specific technologies, along with context specific epistemologies and knowledge that shape teachers' professional knowledge, skills, and perceptions are required to decide on how teachers' practices are impacted. As such, although it was discussed earlier and it is well documented in literature (e.g. Chen, 2008; Koehler and Mishra, 2009; Nunan &Wong, 2005) that the most important role in integrating technology for educational purposes is assigned to teachers and their pedagogical perspectives and understanding of the affordances of technological artefacts, social and

contextual factors (such as socio-cultural and political issues, broader educational policies, institutional supports, priorities and constrains), as argued by Koehler and Mishra (2009), influence the interactions between teachers and technology. The following section, which, brings the discussions in this chapter to an end, will investigate literature on the integration of ICT in EFL at school level, within the specific Iranian context.

2.3.10 Research into ICT mediated English language learning in Iran

> *Neglect of the phenomenology of change - that is, how people actually experience change as distinct from how it might have been intended- is at the heart of the spectacular lack of success of most social reforms. (Fullan, 2007, p. 8)*

Despite increasing evidence regarding the implementation of ICT in language learning, evidence about the use of ICT and its impacts on English language learning in the Iranian context has been scarce. Among the limited number of studies on the topic, some look at different grades in high schools, some focus on tertiary level, and some of them explore private language institutes. Some investigate students' perspectives, and some teachers'. However, two studies (Rahimi & Yadollahi, 2011b;

Shahamat & Riazi, 2009) that were found to be closer to the focus and context of the present study have been chosen for discussion in this section.

Shahamat and Riazi (2009) conducted a comparative study using a questionnaire survey with 700 students to compare the level of ICT use in EFL classrooms across public schools and private language institutes. The results suggest that private language institutes have a higher level of ICT use in their teaching activities as compared to state schools. The research also showed that the availability of ICT tools and their implementation in ELT was higher in private language institutes than in schools. Based on such results, the researchers concluded that '*there should be no wonder if students at language institutes have a better command and fluency [than high school students]'* (p. 84). However, although the literature has indicated that ICT could have a positive effect on language learning, the conclusion drawn by Shahamat and Riazi (2009) seems to be simplistic, as they simply assumed that greater ICT use makes learning more successful. They did not take into account in their conclusion many other elements such as the pedagogical approach used in both organizations and the competence of teachers, and other factors such as content, teaching-learning activities, among others, that have major influence in language learning.

This counter argument is supported by Dashtestani (2012), who

based on the findings from a mixed methods research in 13 private language institutes across Tehran and Alborz province, argued that ICT infrastructures in language institutes remain poor and teachers have limited access to ICT resources in EFL classrooms. Based on the findings from questionnaires (responded by 212 teachers), observations and interviews with 40 teachers, he suggested that *'the types of software appropriate to be used in EFL courses are not easily available to EFL teachers. Moreover, EFL classes are not equipped with suitable technological tools. Most computers and other technological tools are old-fashioned or out of order'* (63). Additionally, although most teachers expressed positive views in regards to the integration of ICT into EFL pedagogy, and although there were some computers and other ICT resources available in the institutes, they were not used '*for educational or academic purposes and computers [were] usually used for leisure or fun*' (Dashtestani, 2012, p. 63). Based on findings of his study, Dashtestani argued that ICT use in language institutes' EFL classrooms was *'limited to some audio tracks played by mp3 player devices or computers (if there were any). These audio activities were a part of textbook activities developed for improving students' levels of listening'* (64).

Another study to determine the level of employment of ICT by teachers in their classrooms was conducted by Rahimi and Yadollahi

(2011b). This was a questionnaire survey involving 248 Iranian EFL teachers who taught in high schools across the capital city of Tehran. They investigated the relationship between ICT integration into EFL classrooms and teachers' personal characteristics and technological literacy and use. They reported that teachers' ICT use was in favour of using portable devices and a limited level of use of the internet and computers. This study indicated a significant relationship between teachers' ICT literacy and ICT integration. Furthermore, it suggested a link between teachers' age (and their teaching experience) and their ICT incorporation, and indicated that younger teachers, who had grown up digitally and were more technology literate, seemed to be more confident and willing to implement ICT. Their participants were a balanced number of males and females, but they did not found any significant correlation between gender and implementation of technology. Based on their findings, they emphasised the role of the availability of ICT tools and technical supports at schools and homes as an influencing factor in integrating ICT. Their findings also suggested that the positive attitudes of teachers as expressed in their responses to questionnaires, towards ICT use or constructivist perspectives to pedagogy, did not guarantee their application of innovative pedagogies or ICT use.

In previous sections of this review of literature, it was discussed that ICT literacy and pedagogical, as well as content knowledge could

positively influence both teachers' attitudes and their actual implementation of ICT. This is the same theme that Rahimi and Yadollahi (2011b) suggest, based on the analysis of their findings. While insisting on ICT literacy as an indicating factor, they posited a relationship between teachers' pedagogical knowledge (based on their academic degrees (MA or BA in EFL)) as well as their content knowledge i.e., their English proficiency (interpretation based on nationwide proficiency exams that are required for studying a Master's degree) and their implementation of ICT in their teaching practices. And as they argue, teachers who had higher relevant academic degrees and language proficiencies were more willing to use ICT in their practices.

While most of their findings and interpretations are consonant with the literature reviewed in this chapter, however, their study was based on a questionnaire distributed between participants. And as acknowledged by these researchers, they did not provide information about the level of ICT integration in Iranian schools by those teachers based on in-depth qualitative exploration of the situation. While they call for a qualitative study of the phenomenon, based on their survey, they conclude that what is needed is to take into account of the needs of teachers and students and a radical paradigm shift from the existent behaviourist curriculum to a constructivist one. From the time this study was undertaken until today, the curriculum and materials have undergone some changes, and as such, this may

accentuate the need for more brand new studies for an understanding of the effects of those changes (if any) on the classroom and/or out of classroom learning activities and the teachers' practices.

2. 4. Summary

This chapter has reviewed the literature regarding the integration of ICT into EFL education. As a starting point, a historical survey of major theoretical concepts, approaches and methods of second/foreign language teaching/learning were presented. Then, from the perspective of a socio-cultural theory and especially Activity Theory, communicative language teaching was discussed. Some opportunities that technology-mediated-communication could provide for communicative EFL pedagogy were briefly touched upon, and the main discussion then centred on the integration of ICT into learning, both in and out of classrooms.

The importance of this study, as was discussed in chapter one, emanates from the fact that in recent years -marked as the information era- many countries have introduced the use of ICT into their education systems (Albirini, 2006), and its significant role in improving education has been emphasised (Afshari et al., 2009; Fullan, 2013; Hennessy et al., 2008). Hence, it seems important to know why despite the high-tech enthusiasm and latest reforms aimed at integrating technology in

schools, there seems to have been little progress (Fullan, 2013). From a change or innovation perspective to integrating ICT in schools, in this chapter, some of the well-documented key factors that could affect the successful implementation of ICT have been outlined. From amongst those factors, the role of the teachers as change agents and their pedagogical technological content knowledge have been emphasised as essential factors in the literature. Accordingly, it was suggested that the implementation of ICT in schools is to a large extent dependent upon teachers.

A number of studies that focused on the role of teachers in integrating ICT were reviewed in this chapter. Accordingly, a number of sociocultural aspects were discussed concerning teachers' situated cognitions and practices, and insights were offered into why teachers resist change (e.g., Fullan, 2007, 2013). These studies suggest that teachers' perceptions about the integration of technology into language pedagogy are influenced and shaped by the interaction of a number of individual and socio-cultural factors. These led to some theoretical assumptions about the multidimensional factors that shape teachers' perspectives on technology use, and to a proposal that the negotiation and collaboration between teachers and some other factors and agents such as peers, and programme designers among others are essential. In addition, the need to encourage EFL teachers through professional

empowerment i.e. providing them with knowledge of the proper models of language teaching and technology use in EFL teaching, as well as the availability of technological tools and the effective technical support at school and home were stressed.

In similar vein, a number of the Iranian context-specific studies including those discussed in the preceding section, indicate that teachers generally expressed positive views about integration of ICT, but their technology use in classrooms was limited. The interpretations offered by the researchers about this, whilst resonant with the literature, are mainly based on the results of surveys using questionnaires that were employed to explore teachers' beliefs and perspectives about technology use in teaching. Indeed, as many of these Iranian researchers acknowledge, these studies, with a typical quantitative design and methodology, fall short of providing a deep understanding of the teachers' underlying beliefs and perspectives as well as providing the insight into how and to what extent technology is used in EFL classrooms. Evidence about this issue is scarce. Thus, as suggested by the Iranian researchers (e.g. Rahimi & Yadollahi, 2011), qualitative studies need to be conducted to investigate teachers' perspectives, beliefs and professional knowledge relating to the use of ICT, in reference to classroom teaching-learning practices. As such, in order to contribute to bridge this gap, the current study aimed to address the following main research question:

RQ. How did teachers' perceptions and beliefs about technology usefulness relate to their pedagogical technology practices?

This question, was then broken down into three sub questions:

a. How did a group of Iranian teachers viewed ICT?
b. How did they use ICT?
c. What factors did they perceive as influencing their behaviours and beliefs in terms of the usefulness of ICT for their instructional practices?

In the next chapter, the theoretical framework and design of the study, the selection of research methodology, procedures, settings and participants, and the methods of data analysis that were utilised to answer the research questions will be identified, and the justification of the selection of methodology will be presented.

CHAPTER 3. Design & Methodology

3. 1. Introduction

In this chapter the philosophical underpinnings and methods employed in the research project will be discussed. The decisions about the philosophical design of the study and the decisions about methodological instruments and processes including methods of data collection, procedures or measures, participants, ethical concerns and methods of data analysis were made on the basis of the purpose of the study and the nature of my research questions.

3.1.1 Purpose of the study and the research questions

As discussed in the previous chapter, earlier studies have suggested that the use of technology in language classrooms is highly dependent on teachers, and assigned a crucial role to teachers' perspectives on technology in their decisions for technology use in their classroom. Recent studies also suggest that teachers' perceptions and actual practices of teaching with technology are impacted by a number of individual and socio-cultural factors including teachers' pedagogical

knowledge, their ICT knowledge and skill, their subject matter knowledge, policies, curriculum, availability of ICT tools and technical support, socio-cultural values and other contextual factors. Although a few quantitative surveys making use of questionnaires have been undertaken to explore EFL teachers' perspectives about using technology in classrooms, more research, especially qualitative research is needed to shed further light on the phenomenon and provide a way to understand Iranian teachers' perspectives, beliefs and perceptions, and the relationship between teachers' articulated perspectives and what goes on in Iranian schools behind the classroom door. Accordingly, to provide more information about what lies beneath the surface of the phenomenon, this qualitative study started with the following main and sub research questions that were drawn from the review of literature:

RQ. How do teachers' perceptions and beliefs about technology usefulness relate to their pedagogical technology practices?

a. How did a group of Iranian teachers viewed ICT?
b. How did they use ICT?
c. What factors did they perceive as influencing their behaviours and beliefs in terms of the usefulness of ICT for their instructional practices?

3. 2. Research design

Research designs in social or educational enquiry are generally based on one of the three dominant frameworks (or approaches): qualitative, quantitative, and mixed method approaches. Each of these frameworks is governed by specific philosophical assumptions or beliefs that one holds about what constitutes knowledge. And each framework based on philosophical and paradigmatic assumptions, implements specific strategies and methods to achieve knowledge (Creswell, 2013; Hartas, 2010b; Thomas, 2013). Hartas (2010a) identifies the fundamental tenets that guide a research study whether it is qualitative, quantitative, or both:

> *The process of constructing knowledge through research is guided by frameworks that enable researchers and communities of practice to ask questions about ontology (what it is, what is there to be known, what the object of research is); epistemology (questions about the nature of knowledge, such as what does it mean to know?); paradigm (a set of ideas, assumptions and beliefs that guide action, world view); methodology (the specific ways of examining, the how of gaining knowledge); and theory (the construction of knowledge through developing and validating interpretive frameworks). (p. 15)*

Likewise, Cohen, Manion, and Morrison (2011) offered insight into how these factors combine to structure a research project, and explained that different philosophical traditions or world views can possibly lead to different types of enquiry and methods of investigation. Cohen et al. (2011) and Creswell (2013) add other elements such as 'axiology' i.e., the values that go into the knowledge and 'rhetoric' i.e., the way that one writes about knowledge. As such, it seems a reasonable argument that a research study is not just a technical exercise but is underpinned by a system of assumptions, values, and ideologies and beliefs that the researcher holds about the world and achieving and producing knowledge.

The philosophical assumptions that researchers hold about social reality and knowledge, implicitly or explicitly influence why they choose quantitative or qualitative research approaches and methodologies (Cohen et al., 2011). These ontological and epistemological positions about the nature of social world constitute the basis of the dichotomy between qualitative and quantitative approaches. The researcher may perceive the very nature of social reality as something 'out there', and view the social reality as external to individuals or might view the reality as mentally and/or socially constructed by individuals with reference to various contextual factors (ibid). Based on the former assumption, the researcher would ask research questions and choose methodologies

within the quantitative framework, and based on the later views she/he will choose a quantitative approach. In this view, the choice of design and methodology to understand the social or educational world is based on the ideological position of the researcher or in other terms, **who** asks the research questions is important.

This could, however, be possible the other way around. That is, in the beginning the design process for the inquiry into the topic of a research study, a researcher identifies the research design and methodology based on the **research questions**, **purpose** of the study, and **the nature of the problem** (Thomas, 2013). To do so, the researcher actually needs to consider what kind of research can answer the research questions in the most effective ways. This has implications, as she/he needs to decide about different approaches, various theoretical assumptions that can inform the study, and what methodology, what methods of data collection, data analysis and rhetorical discussions of findings could best serve the purpose of the study and match the research questions. These considerations may lead the researcher to make a choice between one of the alternative approaches (qualitative, quantitative) over the other, or even using both of them side by side (mixed methods) to complement each other in order to describe, explore, and coming to understand and interpret the phenomena.

Thus, whatever the choice is, an understanding of the epistemological assumptions that guide qualitative and quantitative frameworks seems necessary. The distinctive features of qualitative and quantitative research and the various theoretical assumptions or epistemological views that could inform the qualitative or quantitative approaches to research will be briefly touched upon in this section to open the way for justification of the decisions that were made in the current research. Although considering fundamental principles of qualitative and quantitative approaches to research in a way that could inform the current study in its particular context seems worthwhile, describing current conflicts and controversies common in the literature concerning the superiority of one approach over the other in its general term is beyond the scope of this dissertation. Nevertheless, others (Thomas, 2013; Hartas, 2010a) have discussed this.

These two approaches as discussed earlier in this section are based on different ontological and epistemological positions (Creswell, 2009; Hartas, 2010a; Thomas, 2013). In quantitative research there is a view that the social phenomena could be examined in objective ways based on direct observation and experiment similar to the way natural scientists do (Cohen et al., 2011) without making any inference about data that involves mathematics and statistics (Cohen et al., 2011; Hartas, 2010b). Social scientists who work within the quantitative paradigms (for

example empiricism as defined by John Lock, classical positivism as developed by Comte, and logical positivism (Hartas, 2010a, 2010b; Cohen et al., 2011) to study social phenomenon, believe that '*a residual meaning is always present*' (Cohen et al., 2011, p. 7). In contrast, by doing educational research within the qualitative approach, the researcher sees the social world in which he/she is interested '*as fluid, as constructed by individuals in myriad ways, as not amenable to quantification'*; the researcher believes that '*knowledge is a frail thing'* (Thomas, 2009, p. 87). Qualitative research is based on an interpretivist, naturalistic perspective, and is viewed as a means of exploring, understanding and interpreting a given social phenomena that is not straightforwardly perceivable (ibid). Qualitative research is regarded as a way to understand peoples' concepts, experiences, or meanings that they embed into different events, objects, activities, contexts, and situations that are not directly observable or measurable by numbers and statistics provided by the quantitative research tradition. Hartas (2010b) defines qualitative research as a form of social inquiry that is based on the assumption that

> *'social reality has a historical and political basis, shaped by people's action and construction of meaning, and their experiences of power structures and agency. With such a view of*

social reality, understanding truth as an abstracted and objective entity through our senses is no longer desirable' (p. 43).

Some scholars (e.g. Creswell, 2009) argue that qualitative research takes an inductive approach (reasoning from the specific to general), while others (Thomas, 2013; Hartas, 2010b) assign a deductive approach (reasoning from the general to specific) to qualitative research. Hartas (2010b) stressed that what educational research needs is combining 'deductive and interpreting models' (p. 43). Apart from the controversies, however, this might imply that qualitative and quantitative research should not always associate with or be limited to a particular kind of logical reasoning approach. Furthermore, it indicates that qualitative research could begin with a theory, and end up with rejecting or supporting the theory with qualitative data.

In spite of this discussion, what seems clear is that as a general principle, generalisation of findings to the population from which the sample has been selected, as it is common in quantitative research, is not usually the goal of a qualitative study (Thomas, 2013). Moreover, in qualitative studies, based on the data emerging form research, theory building happens, as opposed to the deductive approach in quantitative research in which data collected based on preconceived variables is used to provide evidence to support or rejection of the hypothesis that has

been formed in the beginning of the study (Creswell, 2009). But as was mentioned, these are not exclusive.

In this regard, and with such preparatory thoughts in mind, I started from the very beginning of this study to think about the social phenomena in which I was interested with some preliminary questions. I undertook review of the literature that was as comprehensive as I could make it to understand the field and to discover theoretical perspectives, including the various conceptual frameworks that have governed the SLA or FLE field.

Based on the review of literature, and informed by Vygotsky's socio-cultural theory, in designing this research I was thinking of the problem under study as a complex phenomenon constructed or negotiated collaboratively through interactions within specific social, cultural, political situations and contexts (Hartas, 2010a, 2010b). That individuals' experiences i.e. perspectives, ideas, and practices are mediated historically, culturally, socially and linguistically, and that absolute truth does not exist, or in other words what might be understood by a community of practice as absolute truth, might be perceived as relative or even be conceived, interpreted or described in different ways by another community. It could be said that social knowledge is the subjective interpretation of the meanings that are socially constructed and influenced by the socio-cultural, political and linguistic structure of

the context of the society in which individuals act. As such the social or educational knowledge is not a direct reflection of the visible and measurable evidence. But what a researcher understands through a lens of social constructivism, depends 'on interpretation of multiple perspectives as they are constructed and voiced in the context of social interactions' (Hartas, 2011b, p. 44).

The literature on the topic of the research in an Iranian context suggested that previous research studies had used quantitative instruments such as questionnaire surveys and as acknowledged by the researchers they were incapable of providing inferences based on rich and contextual information about the phenomenon under study.

Based on these insights I finalised my research questions and began to design the structure of my research. To answer my research questions, I was not seeking to find simply cause and effects, or manipulate variables. I was, rather, intending to carry out the investigation of the phenomena in their natural settings based on a socio-cultural perspective that according to Hartas (2010b) '*strives to empower participants perspectives and ideas, and obtain rich description of the contexts that surrounds their lives' (p. 44)*. To obtain such knowledge about the phenomenon, the educational research needs to adapt strategies such as semi-structured or unstructured interview, case studies, narratives, and observations (Thomas 2013; Hartas, 2010b).

It may be said that my choice of social constructivism was impacted by the purpose of the study as well. The purpose of the study was twofold. I wanted to explore the perceptions of Iranian high school EFL teachers and meanings out of their voices for the purpose of unfolding multi-layered realities constructed in their context of practice and to obtain knowledge about various factors that might have promoted to or prevented them from the integration of ICT in their teaching practices. I was also interested in understanding and describing the classroom processes and practices of ICT-mediated language teaching/learning, and how ICT (if any) was used by these teachers in their classrooms. And finally, to interpret how individual teachers' thinking or cognition relates to their classroom practice and how they interact in the broader social context. In so doing, amongst the various relevant theoretical concepts necessary to interpret the participants' view of their social world and their activities or practices, within a socio-cultural epistemology and in an interpretivist qualitative paradigm I chose to use activity theory as an analytical tool to examine the educational phenomenon that I was going to study.

In the next section, an identification of the theory will be presented. The discussion will aim to clarify why activity theory was an appropriate tool to analyze and understand the system of activity that was going to

be researched. Furthermore, a discussion of the potential limitations of the theory will be investigated as well.

3. 3. The theoretical framework: activity theory

> *Since the time of its inception in the 1920s, this category has undergone a metamorphosis and has been the subject of so many disputes that it cannot be adequately comprehended out of the context of its history.* (Kozulin, 2005, p. 99)

To achieve a better understanding of AT, and to achieve a more operational concept of this theory as a unit of analysis in conducting a research, it seems worthwhile to review the historical development of the concept of activity theory and understand its principles.

Activity theory (AT) or cultural historical activity theory has its roots in the Russian school of psychology and was originally formulated during 1920s-1930s by Vygotsky and his colleagues Leont'ev and Luria who introduced the concept of cultural mediation, goal oriented and artifact-mediated human action (Engeström, 2001; Kozulin, 2005).The theory is generally built around the idea that the relationship between the individual and the world is not direct, but is mediated by cultural tools, signs, and means ((Engeström, 2001; Lantolf, 2005). Figure 3.1

embodies the relationship that exists at the heart of Vygotsgyan activity theory.

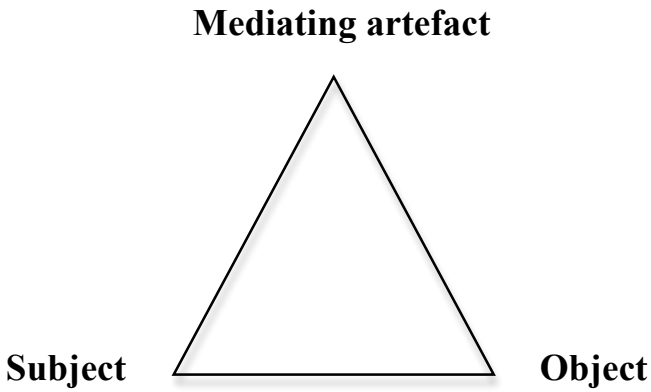

Figure 3-1 Vygotsky's idea of cultural mediation of actions in Engeström, 2009

The concept of activity theory evolved by incorporating complementary ideas by the next two generations and was transformed into a more comprehensive perspective or unit of analysis. As such, AT today is not solely a psychological theory, it can also serve as a useful theoretical framework and methodological tool to explore and address various questions in the social sciences and education.

Currently, three generations of AT are known. The first generation is the concept that was developed by Vygotskyans. But, the concept of activity theory evolved by incorporating complementary ideas by the next two generations: Leon'tev and Engeström. While some AT researchers (e.g., Engeström, 2001) consider changes in the construct of

the other two generations of AT from the original Vygotskyan theory, Lantolf (2005) provided a critical perspective and said that '*the construct and main principles*' of the theory has remained unchanged since they were developed for the first time by Vygotsky and his colleagues, '*but as with any theory worth its salt, the details have been debated and sharpened over the course of time*' (p. 335).

The first generation of Activity theory, formulated by Vygotsky and his colleagues, was based on the Marxian philosophy or social theory of human activity. Vygotsky included Hegelian ideas in the concept of activity theory by taking '*a thoroughly historical view of the stages of development and the forms of realization of human consciousness*' (Kozulin, 2005, p. 104). Also included was Marx's '*concept of human praxis*'; that is, human consciousness is developed through practical socio-historical activity or experiences of participating in activities (ibid). As such, as an explanatory principle, at the heart of AT there is the assumption that human activities are contextually and culturally situated and could be influenced by their past and present experiences, to the effect that humans and their activities need to be studied in their own specific socio-cultural or historical conditions and contexts. Furthermore, the perspectives and goals of humans as actors by whom the actual activity occurs are important in shaping and thus in the analysis of the activity (Lantolf, 2005; Kozulin, 2005). To understand

why a particular activity takes place, at the core of the Vygotsky's activity theory, there is the belief that the human bodily activity and cognition is perceived and understood as occurring voluntarily, purposive and meaningful actions that have a socio-cultural base and function not conditioned by biological attributes (Kozulin, 2005).

Accordingly, it may be said that as a fundamental assumption in activity theory, activity is the central unit of analysis, and the activity is mediated by psychological, material, or social tools, artifacts or symbols. These tools or artifacts serve as mediators between the subjects (actors) and the objects of activity (goals) (Engeström, 2001; Kozulin, 2005).

According to Engeström (2001), the first version of activity theory led by Vygotsky, centered on individuals; and the mediation of other human beings and social relations were not included in his model of the object oriented, artifact mediated activity. This was considered as a limitation for the theory by Vygotsky's disciples. In the aftermath of Vygotsky's death, in the second generation of activity theory that was developed by Vygotsky's colleagues chiefly Leont'ev, this limitation was addressed (Engeström, 2001). Leont'ev reconceptualised Vygotsky's concept of activity by distinguishing between individual and jointly (collective) conducted activities and also highlighted the central role of mediating artifacts. As inspired by Marx's ideas about '*labour, or production of use values*', in the model proposed by Leont'ev, a division

was made between individual and collective activities i.e., the mediation of other humans in activity systems (social mediation) and this led him to differentiate between activity (in that it meets a need) and action (works of single subjects that altogether constitute the collective activity) (Engeström, Miettinen, & Punamäki, 1999). Consequently, Leont'ev redefined the activity system as a complex system in which rules i.e., both explicit and implicit regulations, norms and conventions, guide the relations and interactions between an individual agent and other members of the community in collaboration with whom they perform a collective activity (for example in a classroom). These rules determine how individuals fit into society in order to achieve their collective goals (Engeström et al., 1999). The three level model of activity theory proposed by Leont'ev's is illustrated in Figure 3.2. However, according to Engeström (2001) he never pictorially represented his model of activity theory.

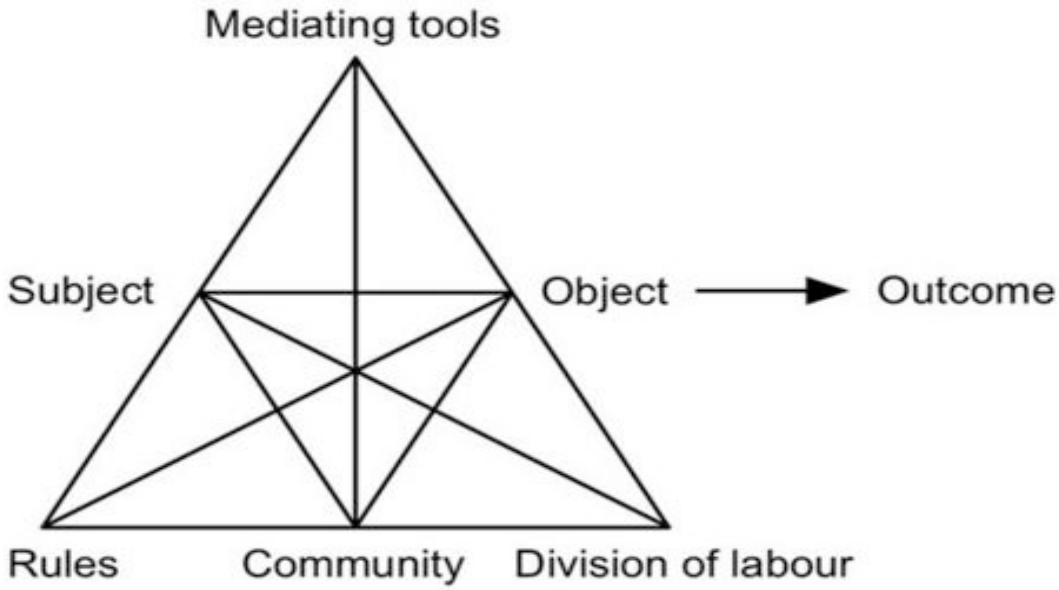

Figure 3-2 The graphic model of the second generation of the activity theory

In Figure 3.2, the elements of an activity system are graphically labeled on the vertices and sides of a triangle. As can be seen, Vygotsky's original model constitutes the upper part of the expanded triangle that has been used to represent the Leont'ev's three level model of activity theory. According to Engeström et al. (1999), this sub triangle depicts at its upmost level the individual or joint actions that are driven by artefacts or tools as motive forces; in the middle level, a purpose or intention to solve a problem is the driving force for the individual or joint action; and at the base of the triangle or the bottom level of the activity network, the conditions and rules of the action are situated as another drive for action. Another important aspect of this expanded model is that it depicts interactions or mutual relationships that exist between the subjects and

the societal factors as intertwined components of the activity system so as to perform or produce the activity (Engeström, 2009).

Finally, Leont'ev's activity system was taken up and extended by the Scandinavian researcher, Engeström (1987) who led the development of the third generation of the activity theory. The third generation of activity theory incorporated multiple interacting activity systems (at least two activity systems) that have a partially shared object as the minimal unit of analysis (Engeström, 2009) (see Figure 3.3). This was extended by paying a great deal of attention to the issues inside and outside of an individual activity system, and making attempts to embed the elements that were absent in the earlier model of the theory:

> *What seems to be missing is movement outward and in unexpected directions: questioning of authority, criticism, innovation, initiation of change. Instability and inner contradictions of practice are all but missing... (Engeström et al., 1999, p. 12)*

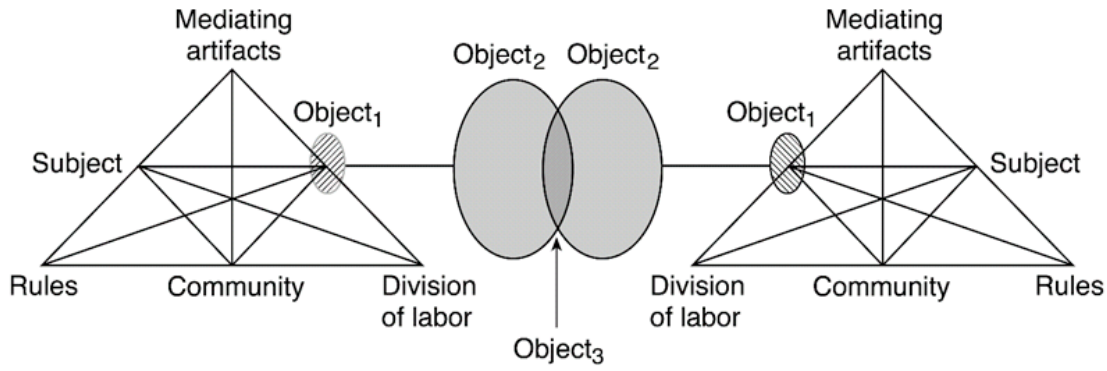

Figure 3-3 The graphic model of the third generation of activity theory that incorporates two activity systems as the minimal unit of analysis

As Engeström et al. (1999) and Engeström (2009) argue, the model of the activity system proposed by Leont'ev is not able to fully capture the complexities of certain activities by taking into consideration subjective factors that impact the activity whether at the level of single actions or the collective organisational (the individual activity system) or beyond the activity system. The issues within the activity system according to Engeström and Sannino (2010) were '*issues of subjectivity, experiencing, personal sense, emotion, embodiment, identity, and moral commitment'* (p. 21). These internal issues that are associated with humans and their thoughts and experiences and emotions, emphasize the centrality of human agency in activity theory: '*changes must be initiated and nurtured by real, identifiable people, individual persons and groups*' (Engeström & Sannino, 2010, p. 6). Then, there is the idea of change and

expansion that again centres on human agency: '*the most important outcome of expansive learning is agency – participants' ability and will to shape their activity systems'* (Engeström & Sannino, 2010, p. 20). As an analytical lens that seeks expansive learning, the third generation of activity theory posits '*learners learn something which is not there*' (Engeström & Sannino, 2010, p. 2). And for the implementation of new ideas and practice into learning, it posits that interrogative perspectives of humans, challenges and contradictions that occur between the elements inside an activity system (if appropriately resolved) could lead to the construction of new objectives and new concepts that in turn lead to transformations and transitions in the activity system (ibid).

The third generation of AT, with its expansive learning ideas takes an 'outward' look, and posits that activity system are not closed rather there are relationships between multiple activity systems. In this expanded view of the AT, according to Engeström and Sannino (2010), the limitations of the previous model are addressed, and activity theory is enabled to tackle and analyse '*learning in fields or networks of interconnected activity systems with their partially shared and often contested objects*' (p. 1).

Engeström (2001) summarized the major concepts of his extended model of the activity theory into five main principles. In brief, they are as follows:

The first principle is that a collective, artefact-mediated and object-oriented activity system, seen in its network relations to other activity systems, is taken as the prime unit of analysis. The second principle is the multi-voicedness of activity systems… The third principle is historicity… The fourth principle is the central role of contradictions as sources of change and development. The fifth principle proclaims the possibility of expansive transformations in activity systems (pp. 136-137).

3.3.1 Activity theory in SLA/FLA

The application of activity theory in the field of foreign or second language learning has been investigated and discussed by Lantolf and Thorn. Lantolf (2005) argues that while activity theory has been evolved from socio-cultural theory to answer our questions regarding who, what, how, where, when, and why, the central focus of activity theory is the question of why i.e., what actually motivates people to do actions. Activities are human behaviours, and higher forms of human actions based on a Vygostskyan perspective, are strongly linked with motivations and objectives (Lantolf, 2005). Therefore, it could be argued that activities are liable to change in response to shifts in goals and motives. But one cannot ignore the importance of the broader historical, socio cultural and contextual as well as situational factors that play a role

in motivating people (ibid). As suggested by Leonte've, (unpublished manuscript cited in Lantolf, 2005, p. 346), humans have the capacity '*to relate their activity to their entire life-world rather than to an actual situation; their activity is determined by the world at large, as opposed to the immediate environment'*. And in the same vein, Engeström (2001) considered the individual goals as the '*raw material'* that in collaboration with other factors within the activity system and beyond it is constructed and formed into shared meanings or collective objectives (p. 136). Activities as such are unstable and not predictable and have the possibility to be switched to other activities during the course of action because '*the object of activity is a moving target, not reducible to conscious short-term goals'* (Engeström, 2001, p. 136). This accounts for the changeability and inconsistency nature of language learning tasks as complex real life activities, and why learning outcomes are unpredictable (Lantolf, 2005). Outcomes as defined by Engeström (2009) are the results of the individual and collective activities driven by the objects. And the outcomes themselves could lead to or influence the subjects' future actions. As such, to understand the educational phenomena, the objects (goals, motivations, perspectives, needs, perceptions) of the pedagogical activities are required to be understood, and their influence and interaction with other key elements of the activity systems and their relationship with other activity systems need to

be explored (Lantolf, 2005; Engeström, 2001, 2009). As such, it is reasonable to argue that teachers' motives, beliefs and attitudes are difficult to be elicited and assessed in isolation. Thus, it is important that teachers' cognition be understood in relation to other internal and external factors within their socio-cultural contexts and their role in the educational systems in which they act and in connection to their actions. This is the point that could possibly answer why some studies show inconsistency between teachers' beliefs and their actual teaching practices (Chen, 2008).

3.3.2 Activity theory as a framework to understand teachers' perspectives towards ICT

In the domain of human-technology interactions, Kaptelinin and Nardi (2006) advocate and encourage the development of activity theory and its use as an efficient analytical tool to investigate how people act with technology. In this regard, they proposed an extended and comprehensive checklist as a guide for analysis. It covers the essential contextual internal and external components of the activity system and highlights the areas of attention based on the third generation of activity theory for the researchers who intend to study contexts in which technology is used as a medium.

At this point it seems reasonably clear that when exploited appropriately, activity theory can be a useful theoretical framework that facilitates analysing, understanding and the interpretation of the various processes, transformations and practices within and between the key factors involved in the educational organisations and institutions as activity systems including the analysis of key issues and problems in the process of integrating ICT in educational practice. By providing a holistic description of the interactions, transformations and contradictions that occur among the components of the activity system, activity theory could make it possible to explain how and why some individuals may function successfully and some fail. And from a bottom-up position, in light of the understanding and analysis of teachers' experiences, practices, perspectives, and perceptions about using ICT, various contradictions and tensions that may occur in the processes of ICT-mediated innovations in language pedagogy could be identified (Karasavvidis, 2009).

Thus, this study used an expanded version of activity theory as a useful lens to understand and to analyse ICT use in Iranian EFL classrooms through exploring teachers' motives and perspectives in reference to their pedagogical activities i.e., their everyday English teaching practices in classrooms with a consideration of their relationship to the wider context and other activity systems. In order to

ease the implementation of the theory, and to step down from the abstract to concrete, Kaptelinin and Nardi's (2006) proposed checklist was used as a guide to identify all the important elements that possibly construct the activity system. This study's checklist in brief had the following components in the minimal or target activity system:

- **Subjects:** Participants in the activity: English teachers; how teachers' cognitions, mental capabilities and knowledge about learning, teaching and technology, and their voice /expression and practice/ action are related. And how teachers with specific cognition and action influence the interactions within the system.
- **Objects:** Pedagogical aims that in its broader sense are English language learning goals as identified in the educational documents as well as teachers motives and goals and perspectives that are shaped before and during the activities; how technology has been defined or viewed by participants and how it is used in order to promote achieving objectives or provide limitations.
- **Mediating artefacts:** ICT tools and instructional approaches and methods (e.g., communicative language teaching: task based instruction, content-based instruction, etc.) and the impact that they have in resolving or creating conflicts or tensions in the activity system.

- **Rules:** Socio-cultural norms, regulations and rules of the educational systems and the target schools that govern the identified or expected activities toward language learning goals. how technology is incorporated in the activity system (schools or classrooms) with its current norms and rules.
- **Community:** The target community within schools includes teachers, learners, administrators; how the relationships within this community and the broader community and context support or constrain the activity i.e., ICT-mediated pedagogical practices.
- **Division of Labour:** Distribution and assigning of roles, works, and responsibilities within schools community, with focus on the role of teachers in integrating technology.

Based on these principles, in this activity system, the unit of analysis i.e. the 'activity' was defined as ICT-mediated EFL pedagogy. Then the other components involved participating teachers as 'subjects'; ICT tools as mediating artefacts and how they mediate between subjects and objects; the school 'community' including teachers, students and their families, administrators and schools' technical staff, and the regional and national educational administrators. Also 'division of labour' (roles and responsibilities that every member has) and the rules (e.g., curriculum, assessment, and scoring; school regulations such a class time; and the

socio-cultural norms) that govern the interactions between subjects and the community were considered.

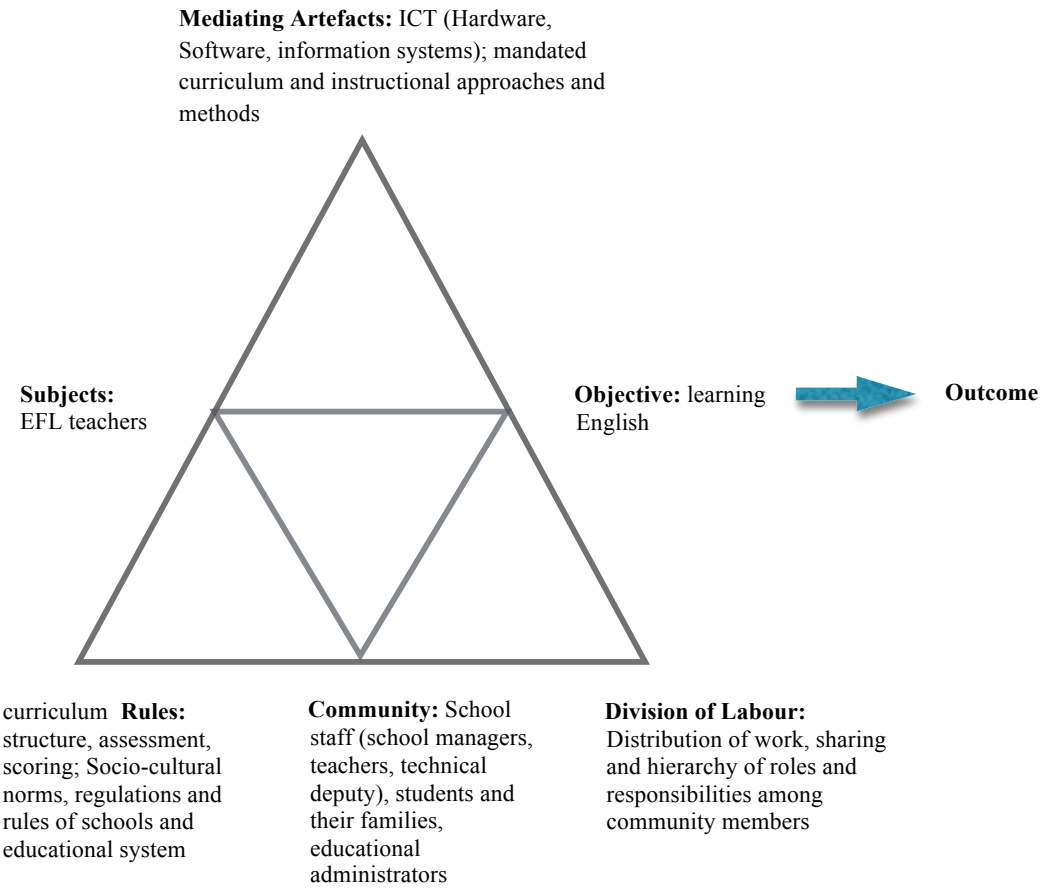

Figure 3-4 The activity system of the nine Iranian EFL teachers

In the specific social context in which teachers were working, curriculum, their objects, institutional rules and norms coincided, thus, they formed one activity system. As mentioned earlier a collective activity system has been considered as the target (micro level) activity system with all nine teachers acting as subjects within this system (See Figure 3.4).

ICT in this study is not the objective, but it was viewed as a mediating artefact through which subjects of the activity constantly interact with other elements in their environment in the process of achieving certain pedagogical objectives (Engeström et al., 1999; Kaptelinin & Nardi, 2012). The activity system in this study was viewed from the perspectives of its subjects i.e. teachers:

> *Activity system as a unit of analysis calls for complementarity of the system view and the subject's view. The analyst constructs the activity as if looking at it from above. At the same time the analyst must select a subject, a member (or better yet, multiple different members) of the local activity, through whose eyes and interpretations the activity is constructed. This dialectic between the systematic and subjective-partisan views brings the researcher into a dialogical relationship with the local activity under investigation. (Engeström et al., 1999, p. 10)*

The analysis and interpretations of this 'dialogic relationship' between users, objectives and factors and conditions that surround the technology-mediated activity system has a scope and significance that according to Kaptelinin and Nardi (2012) extends '*beyond low-level interaction to the higher level concerns of motivation and goal seeking*' (p. 6). To understand various dimensions of the integration of ICT into

EFL pedagogy in Iranian classrooms, the activity systems of the 9 participants were explored. This led to the identification of several context-dependent relationships between components of each activity system. Some of these interactions within and between the activity systems presented contradictions at different levels that will be highlighted and discussed at length in the following chapters. Some of the contradictions occurred at the primary level. Primary level contradictions occur within the components of the activity system, such as the contradiction between teachers' perceived values of ICT mediated communicative language teaching and their drill and skill classroom practices. Yet, some contradictions were secondary, such as accessibility of the tools (due to fund, technical issues, the importance that organisational management team attach to these tools). The third level of contradictions arose as the use of the technological artefacts is a subordinate to and resisted by the classical form of activity motive. And the forth level of contradiction concerns the relationship between the target activity system and neighbouring activity systems with which they have interaction.

Assumptions identified in activity theory led me to look for the complexities of views, or subjective meanings, activities, events and situations and their interactions and relationships with other factors inside and outside the systems. I was prepared to seek 'what', 'how' and

'why' questions during the data collection process, and in observing the pedagogical activities and exploring participated teachers' views, but in my interpretations I was aware that:

> *'Subjective meanings are negotiated socially and historically', that 'they are not simply imprinted on individuals but are formed through interaction with others ... and through historical and cultural norms that operate in individuals' lives' (Creswell, 2013, p. 25).*

AT as a theoretical framework helped me with methodological decisions, and informed my choice and use of data collection methods and procedures, analysis strategies and interpretations. In brief, it provided me with the opportunity to identify what I was going to explore, and to understand the phenomena as well as to explain and interpret it. The next step was making a choice among different research methodologies. For the purpose of the current study, case study seemed to be the most appropriate methodology through which my research questions could be answered. In the next section, the features within case study research that could justify its use, will be discussed.

3. 4. Methodology

The aim of this study was to investigate the perceptions and views of teachers of English in Iranian high schools towards the use of ICT in their teaching practices, as well as to capture a snapshot of the current use of ICTs in these schools. My philosophical assumptions about the world on the one hand, and the nature of the problem and purpose of the study on the other hand, led me to decide to find answers to research questions within an interpretive framework because my questions called for answers regarding perceivable situations and a deep exploration of the construct meanings, perspectives and understandings of participants in those specific situations and contexts.

And within this paradigm, in order to probe beneath the surface of the phenomena and achieve a deep understanding of them, a multiple-case study was adopted for the present research. It seems worthwhile to provide a discussion about case study, its identification, its main characteristics and values that makes its use beneficial for this study, and how it was used as a methodological tool to achieve the purpose of the study.

3.4.1 Case study approach: definitions, opportunities and limitations

In a case study, as Punch (2014) defines it, '*one case (or perhaps a small number of cases) will be studied in detail, using whatever methods and data seem appropriate'* (p. 119). Case studies have been approached and defined in multiple ways (Nunan & Bailey, 2009). But from a naturalistic approach to inquiry, Nunan and Bailey (2009), cited a number of definitions and elicited two essential commonalities among various definitions presented: the first and foremost is '*the notion that the case is a bounded instance'* i.e., it is defined within some kind of boundaries such as time (for instance, a pedagogical activity that has a time limitation such as a lesson) or role or place boundaries (teachers, or schools); the second important common factor is that '*the phenomenon is studied in context'* (pp. 161-162). From this perspective, a case study is 'centred on description, inference, and interpretation' based on observing the characteristics of the cases in their '*naturally occurring situations'* (p. 162).

Nunan and Bailey (2009) emphasised this situation-specific and context-boundedness of the case study as valuable features that enable it to provide the researcher with rich and detailed descriptions about the case or cases. But they were not the only ones who placed so much

emphasis on the importance of the studying of cases in their context of the events. Cohen et al. (2011) provided a similar perspective, and stressed that case study has the capability to study a real case or a phenomenon within its natural setting and stressed that '*it is important to set the case within its context*' (p. 289). Similarly, Mackey and Gass (2005) drew attention to the complex dynamics and the context-specific nature of the second/foreign language education, and believed that '*case studies clearly have the potential for rich contextualisation that can shed light on the complexities of the second language process*' (p. 172). Likewise, Yin (2012) argued that selecting a case study as a research strategy is a deliberate attempt to take into consideration the contextual factors that the researcher thinks might be relevant to the phenomenon, rather than focusing on the phenomenon in a decontextualised or laboratory-like condition. Given this emphasis on understanding of the meaning in specific social contexts, and producing in-depth knowledge, the number of subjects or cases in a case study are few. A case study could be conducted with a single case like a person, or a small community such as a classroom or a school or an educational program, or multiple cases as several schools or people (Mackey & Gass, 2005; Yin, 2012).

Conducting case studies with more than one case or working with multiple cases, can provide the researcher with multiple perspectives,

and provide the opportunity for comparing across cases (Mackey & Gass, 2005). The cases, in addition to being small in number, are not necessarily selected randomly or are not intended to be representative of the whole population. For this reason, the value of case study has been questioned as its findings could not be generalised to the whole population or to the similar situations or contexts. Case studies are also criticized for lack of objectivity (Cohen et al., 2011; Mackey & Gass, 2005; Nunan & Bailey, 2009). In essence, case study as a methodology or strategy is usually used with naturalistic research, and has interpretive theoretical and epistemological assumptions that make it distinct from experimental studies. For this reason, the valuable characteristics of case study such as particularity, rich contextualisation, thick description and interpretation, along with multiple viewpoints as well as triangulations are the strengths of case studies that are more important in interpretive research than generalisation and objectivity (Nunan & Bailley, 2009; Cohen et al, 2011).

Concerning the criticism that reject case study for not being objective, Cohen et al (2011) admired case study for its potential to create the detailed and rich data to provide a deep understanding of the phenomenon about particular case/s in particular setting and specific situation or period of time especially when there is little or no control over the behaviours or activities of case/s. This means that understanding

the lived experiences of people in real life situations and contexts is of much significance in case studies, as they pointed out, '*it is important in case studies for events and situations to be allowed to speak for themselves, rather than to be largely interpreted, evaluated or judged by the researcher'* (p. 290). Hence, based on these statements, a case study might be questioned for being subjective, or for not having a scientific base or lacking rigour; nevertheless, case study provides data from multiple sources and covers a range of topics in systematic ways. This involves collection of data from various methods through which detailed and rich data can be collected including interviews data, observations data, documentary data, and even quantitative data. This data could be presented in different types of recorded audio of the life histories, lived experiences, perspectives and attitudes of participants as narrated by themselves, captured videos of participants' activities, physical characteristics and appearance and moods and body gestures, pictures, field notes and journal entries, etc. (Nunan and Bailey, 2009; Punch, 2009). The triangulation or multiplicity of data sources is discussed as a key advantage of case study (Yin, 2012).

A case study can enable the researcher to study a single case over time so that ongoing changes can be explored closely, or to study multiple cases, and, thus, have the opportunity for replicating the study with more cases and to discover massive amount of information about

the phenomenon, and to discover and compare differences between cases. In the latter case i.e. when the case study involves studying multiple or different cases, it is called *multiple-case study*, *collective case study*, or *comparative case study* (Punch, 2009, p. 119). A key advantage of a multiple case study, as suggested by Yin (2012) is that the study of two or more separate cases within a multiple case study is quite similar to replicating an experiment, and, thus, could provide the researcher with more confidence about the findings, not to mention the possibility of predictability.

Another common criticism of the case study approach, as suggested by Yin (2012), comes from an outdated view that case study could not be relied on as a serious research methodology, but it should be used in combination with other methods. In this view, a case study is assigned an exploratory role and its assumed function is to examine the situation as an introduction to an inquiry or gathering some early information in the service of other research methodologies (e.g. to inform whether a case is worth studying). Yin (2012) argues that all other research strategies, such as a survey, allow for an exploratory action along with other functions in a study. Not only case study is a research strategy, but its applications are broader than the mere exploration, and include purposes like describing (to collect information on particular aspects of an issue and describe them as they occur in their specific natural context) and

explaining (seeking to further investigate an event by analysing and interpreting its conditions, processes, relationships and interactions, effects and causes). Accordingly, Yin (2012) identified three types of case study: exploratory, descriptive, and explanatory case studies. Following this definition, the small-scale data collected through an exploratory case study are usually useful in helping a researcher who is dealing with broad and general questions to propose well-defined and specific research questions. From this, he notes that 'case studies are pertinent when your research addresses either a descriptive question—"What is happening or has happened?"—or an explanatory question—"How or why did something happen?"' (Yin, 2012, p. 5).

Case studies are highly integrated within theoretical frameworks, and the researcher must use the theory to support his/her descriptive or explanatory presentation and interpretations of the phenomenon. Failure to link the case study with theory leads to emerging problems such as lack of rigour in the practical procedure and analysis. Yin (2012) argued that if such challenges are appropriately addressed and appropriately done, case study findings can be viewed as rigorous, objective, and could be generalized to other contexts and situations. What is needed, he suggested, is tackling what he called 'methodological issues', such as:

- **reliability** (i.e. consistency of the results if the study is replicated)

- **validity** including
    - *construct validity* (i.e. establishing operational measures for the accepted theoretical and practical concepts being studied and ensuring that the study measures the concepts and constructs it is supposed to measure)
    - *internal validity* (i.e. ensuring the data supports causal relationships between variables, and that in the explanation and inferences being made based on evidence, the rival explanations have been ruled out.
    - *external validity* (i.e. generalisability: identifying the wider situation or population to which the results could be applied).

But for the most part, such criteria as validity and reliability to verify the 'rigour' in a research are considered to be matters of concern for quantitative researchers who work within positivist paradigms (Hammond & Wellington, 2013; Shenton, 2004). Based on the fundamental epistemological differences that exist between qualitative and quantitative research, it is argued that using the same set of criteria that is used for establishing rigour in quantitative research is inappropriate for the qualitative research. They agree that there should be some guidelines for ensuring the quality of qualitative research as well. It is believed that without setting such criteria, the qualitative

research would not be valuable. In the same vein, Lincoln and Guba (1985) suggested that naturalistic studies such as case study need to establish 'trustworthiness' instead of 'rigour'. Lincoln and Guba (1985) define trustworthiness as the extent to which a qualitative researcher could convince 'his or her audiences (including self) that the findings of an inquiry are worth paying attention to, worth taking account of' (p. 290). This can be attained by addressing following four elements:

- credibility
- transferability
- dependability
- confirmability

This set of quality criteria to judge the qualitative enquiry are viewed as the alternative labels or different terminology that qualitative researchers use in preference to validity and reliability and they appear to have a one to one corresponding relationship with reliability, internal and external validity, and objectivity. For example, credibility seems to be closely associated with internal validity, dependability with reliability; and confirmability is seen as correspondent with objectivity; transferability i.e. the generalisability of the findings of the study somehow equals external validity (Hammond & Wellington, 2013). This analogous relationship between quantitative and qualitative has been illustrated in Table 3.1.

Rigour in quantitative research	Trustworthiness in qualitative research
Internal validity	Credibility
External validity	Transferability
Reliability	Dependability
Objectivity	Confirmability

Table 3-1 Analogous relationship between elements of rigour in quantitative and trustworthiness in qualitative research

But as was discussed above, the philosophical assumptions underpinning the qualitative and quantitative criteria are different. For example, credibility is defined as the extent to which data and data analysis are providing a real and true picture of the phenomenon under study (Mackey & Gass, 2005). While this might be analogous to the definition of internal validity, the 'reality' in interpretivist paradigm is not a single reality and not simply out there; it is rather multi-faceted and socially constructed (ibid). As such using quantitative verification methods such as validity that concerns observable external reality, seems inappropriate in qualitative research.

Although not unchallenged, the trustworthiness criteria proposed by Lincoln and Guba have replaced reliability and validity, over the past two decades or so '*for evaluation of the overall significance, relevance,*

impact, and utility of completed research' (Morse, Barrett, Mayan, Olson, & Spiers, 2008, p. 14).

Several techniques and strategies have been proposed to enhance trustworthiness. For example, to enhance credibility, it has been suggested that data be collected continuously over a prolonged period of time so that the researcher is immersed in the target community to the extent that he/she is accepted by participants and thus they act naturally (Hammond & Wellington, 2013; Mackey & Gass, 2005). Also of importance is collecting data from various settings and situations and from various sources and aspects to ensure that the findings of the study present a true picture of the phenomenon (triangulation). A strategy offered to check the credibility of an investigation is that the data after being polished (in the form of themes for example) be checked by the research participants or be reviewed by peers for accuracy (Creswell, 2013; Hammond & Wellington, 2013; Lincoln and Guba, 1985; Mackey & Gass, 2005).

Transferability in qualitative studies has replaced generalisability and involves determining whether or not findings of the enquiry could be extended or applied to the wider context or to other contexts (Lincoln & Guba, 1985; Mackey & Gass, 2005). Of note here is that:

> *an investigator can make no statements about transferability for his or her findings based solely on data from the studied context alone. At best the investigator can supply only that information about the studied site that may make possible a judgement of transferability to some other site; the final judgement on that matter that is, however, vested in the person seeking to make the transfer (Lincoln & Guba, 1985, p. 217).*

Yin (2009) suggests that the generalisability that case study permits is 'analytic' in lieu of the 'statistical' generalisation that quantitative studies allow. In explaining this, it is suggested that while in quantitative research, random sampling, sample size and representativeness is important, and based on the statistical measures the researcher confirms that the data is generalisable, in naturalistic case study research, it is the reader or other researchers who based on their own experiences and logic decide whether or not the findings of a qualitative research study could be generalised to one or more similar contexts (Cohen et al., 2011; Yin, 2012).

By the same token, although it is argued that '*qualitative research findings are rarely directly transferable'*, the degree of transferability of the findings is determined by the homogeneity of the contexts (Mackey & Gass, 2005: 180). The homogeneity and consequently, transferability

of the findings, as suggested by Lincoln and Guba (1985), could be established through 'thick description' that is an important characteristic of the case study (p. 359).

Verschuren (2003) has taken this line of logic to respond to the criticism that is facing case study about generalisability. He explained that to ensure generalisability in quantitative research, when the population is homogeneous, a small sample size is considered; but when the population is highly variable or when different variables are going to be explored, then a larger sample is recruited to represent the variance in population and to cover the variables of interest. In case study, exploring a case or phenomenon from a variety of lenses or sources provides the researcher with rich knowledge about the multiple facets (variables) of a phenomenon. Moreover, using multiple cases, however small the numbers, with various perspectives and interpretations about the phenomena could provide the range of difference that in for example a survey, a researcher intends to achieve by recruiting a large sample that are randomly recruited to represent the whole population. The objective of the thickness of description is not actually to achieve the status of proof or to make claims about generalisability of findings. Rather, it is to provide readers with detailed information to be able to compare the research context with their own, and decide whether a particular set of or

a sequence of findings could be applied to their own situations and contexts (Mackey & Gass, 2005; Verschuren, 2003).

Dependability is another trustworthy criterion that was mentioned above. It has replaced reliability i.e. the consistency of the results over time if the study is replicated with the same or similar participants and in the same or similar settings (Lincoln & Guba, 1985). But, as the social phenomena and the constructed meanings, attitudes, perspectives, and actions are subject to constant change, reliability cannot really be attained in qualitative enquiry as it is expected in experimental research (Shenton, 2004). To tackle this issue, dependability seems to be more applicable for qualitative studies and this could be attained by thoroughness of the data collections (ibid). Lincoln and Guba (1985) considered a strong association between dependability and credibility so that ensuring credibility (engagement in the field for an extensive period to provide a natural and true picture) enhances the degree of the dependability.

And finally, there is confirmability that is the qualitative counterpart of objectivity, and is identified as '*the degree to which the findings of an inquiry are determined by the subjects (respondents) and the conditions of the inquiry and not by the biases, motivations, interests, or perspectives of the inquirer'* (Lincoln & Guba, p. 290). According to Hammond and Wellington (2013) confirmability has a close link to

credibility, so that enhancing credibility by the strategies that were mentioned above, will lead to ensuring confirmability. A strategy to verify confirmability, as suggested by Lincoln and Guba (1985), is an audit trail, that is, a set of detailed records of the step by step gathering of evidence from the enquiry and '*involves the use of field notes, memos, a field diary, process and personal notes and a reflexive journal'* (p. 319). Accordingly, to enhance confirmability, it has been suggested that a full and detailed account of all the procedures and processes in research design and data collection, a full description of the context of study, participants and their relationships, as well as a full account of data analysis procedures and findings based on which interpretations are made, need to be reported so that the reader can understand and evaluate the effectiveness of those measures taken and confirm the interpretations (Mackey & Gass, 2005; Shenton, 2004).

The fundamental tenets and principles of case study that were briefly reviewed in this section, were intended to clarify the ground so that I can discuss practical ways through which I conducted this inquiry and the justifications for choosing a case study methodology for the study at hand, and the attempts that were made to make best use of it. In the following, the discussion will centre around two main categories: the logic behind my choice of case study, and the practical strategies that I employed.

In conducting this study, I adopted an epistemological stance i.e. I was aiming to look at the social world from the view of the participants of the study, and took into consideration the meanings constructed by the participants in the particular context of the study. The logic behind the choice of the case study approach in this study was that understanding and a proper interpretation of the phenomenon of integrating ICT and understanding teachers' perspectives, perceptions and motivations and actions in relation to this phenomenon, could not be achieved without considering the relevant contextual factors and attaching meaning to them. The particularity, context boundedness and triangulation of data or possibility of using multiple sources of evidence and procedures, were some of the advantageous characteristics of the case study approach that could enable me to better understand teachers pedagogical actions (Gillham, 2000; Yin, 2003; Demetriou, 2009; Yin, 2009; Yin, 2012). And finally, to summarize the advantages of case study, I echo Demetrio (2009) who said, 'It can involve single and multiple case studies, can include quantitative elements, relies on multiple sources of evidence, and benefits from the prior development of theoretical propositions' (p. 204).

3.4.2 The current multiple case study

The first step in organising a case study according to Yin (2012) is to identify a case or cases that are going to be studied. As it is clear from

the research questions and purpose of the study mentioned in previous sections, the unit of analysis in this study is the activity of integrating ICT in secondary schools. But as was described in the discussion of activity theory in previous section, an activity could not be analysed without considering its actors, their motives, as well as a dialectic and dynamic interaction that exists among them and other contextual, social, historical factors that exist within and beyond an activity system. The main purpose of my study was to explore the implementation of ICT in English teachers' teaching activities in Iranian secondary schools. Investigating the important features and developing an understanding of such a complex social and educational issue, could be attained by a case study. It could allow an understanding of the processes involved by exploring teachers' perspectives, perceptions, attitudes, experiences, motives and decision-making in reference to what they do in the classroom, and the link they had with other contextual factors. In fact, the larger context or the environment in which a group of teachers act was important for the purpose of the study, but at the same time I intended to provide in-depth information to complement the previous studies. As such, for the overall purpose of this study and to provide various perspectives and multiple sources of information about the phenomenon, a multiple-case study was considered.

The multiple cases that I chose for this study were a group of English teachers in 6 Iranian high schools. I collected data from various sources to provide both a thick *description* of the phenomenon under study and to *explain* and interpret the phenomenon with reference to "how" and "why" questions about the phenomenon.

The approach in this case study was exploratory, explanatory and descriptive. The overall design pattern for the data collection and analysis in the current study was a combination of an exploratory inductive strategy and a deductive method of reasoning. While the in-depth and rich data from this study were used to provide descriptions and explanations of the social/ educational world from an insider viewpoint, the processes of data collection and analysis were also guided and to some extent presupposed by the theories such as expanded version of activity theory (as the overarching theory), TPACK (technological pedagogical content knowledge), communicative language teaching, and Fullan's perspectives on change.

3.4.2.1 Trustworthiness

To ensure the trustworthiness of the study I used several measures that were discussed above as the relevant strategies. First of all, I sought to situate this case study within the framework of activity theory that could clarify the theoretical concepts based on which this study was conducted.

In order to establish credibility, in addition to presence in the context and allowing some time for them to adjust to my presence, I collected data from multiple sources of information including observation of teachers' pedagogical practices in classroom, observation of schools technological infrastructures, analysis of a wide range of educational and curriculum documents, and exploring teachers' views, attitudes, experiences, etc. through face to face semi-structured interviews. This case study was time-consuming due to replicating the study with various cases in various sites, which according to Yin (2003) is advantageous because it '*(a) predicts similar results (a literal replication) or (b) predicts contrasting results but for predictable reasons (a theoretical replication)*' (p. 47).

Furthermore, the present research aimed at scratching beneath the surface of the phenomenon in order to obtain thick and rich information so that that it could provide a better insight about the phenomenon under study. In addition to these procedural measures, the range of multiple perspectives from a group of teachers (multiple cases) who were recruited from different schools could add to the transferability of the findings to the extent that a trustworthy multiple-case study could realistically allow.

In order to enhance the dependability and confirmability of the results, triangulation, keeping a journal along with the records of the

step-by-step data collected, and the review of the data patterns and all research procedures from data collection to interpretations, were reviewed by a competent researcher.

All in all, these measures were adopted so that the evidence created from this study might be considered as trustworthy. In the following sections, I will discuss in detail how this study was operationalized.

3. 5. Methods and procedure

To find answers to the research questions in this multiple-case study, a qualitative approach making use of observation, interview and documentary analysis was adopted. The rationale for the use of a qualitative approach, as was discussed in previous sections, lay in the purpose of the study and nature of the research questions that required in-depth information about perceptions, opinions, and attitudes in reference to their classroom practice. Straightforward and broad data about the phenomenon was available from the previous research (Rahimi & Yadollahi, 2011a, 2011b; Shahamat & Riazi, 2009). The current research aimed to add a qualitative perspective to previous studies. For this purpose, the target group were EFL teachers of the same three grades or age levels (14-16 years old) that had been researched by previous research.

3.5.1 Sampling and context of the study

Given the logic of the qualitative research tradition, random sampling and the representativeness of the sample and its large size are not key concerns as they would be in quantitative research (Punch, 2009; Thomas, 2013). As such, different strategies are employed in sampling in qualitative studies. One of the common and widely used strategies in interpretative enquiry is convenience sampling:

> *Very often indeed the researcher must take whatever sample is available, and the incidence of convenience samples (where the researcher takes advantage of an accessible situation that happens to fit the research context and purposes) is increasing. (Punch, 2009: 250)*

Accordingly, this study involved a non-probability convenience sample of 9 Iranian EFL teachers- 4 females, 5 males -across 6 different types of high schools (State, Private, Shahed, etc.) in the capital city of Tehran (for a demographic information of participants see Table 3.2).

N	Name	Gender	Age	Level of education /degree	Years of teaching experience	Experience of ICT use in class
1	SAM	male	32	BA in English Language & Literature	8	One year
2	VJA	m	42	BA in English Language Translation	16	4-5 years
3	ARD	m	43	BA in English Language & Literature; Masters in Philosophy	24	One year
4	MZR	m	50	BA in English Language Teaching	28	Just started
5	GHR	m	40	Masters' in English Language Translation	20	2 years
6	MSS	female	42	BA in English Language & Literature	21	Just started
7	RAQ	f	40	BA in English Language Teaching; postgraduate student	20	2-3 years
8	ABH	f	43	BA in Teaching English	18	4-5 years
9	MHA	f	45	BA in English; Master's in Educational Management	23	8 years

Table 3-2 Demographic information of participants

The participating schools, according to the regional departments of education, had optimum conditions in terms of access to technology. Those teachers who were invited to participate in this study claimed they were incorporating technology in their practices. The purposive convenience sampling was selected in order to reduce the effects of inhibiting factors to technology use (suggested in previous research) such as lack of access to technological resources, institutional support,

and teacher' factors such as attitudes, experience and comfort with technology.

A common criticism of such a purposively selected sample is that it is relatively small, and that it cannot be considered to be representative of the population. Each participant is a unique case, reporting their own perspectives and experiences in their own specific context. Accordingly, the generalizability of the results is limited, which means the results of this small-scale study cannot be applied to the entire population (Thomas, 2013). Nevertheless, as was mentioned earlier, generalizability was not a primary concern in this qualitative research, as the main purpose of the study was to collect detailed and rich information to depict the complexities of the phenomenon and enhancing our understanding of the subjective experiences (Punch, 2009; Thomas, 2013) of a group of Iranian EFL teachers who make use of ICT. The valuable characteristics of case study such as particularity, rich contextualisation, thick description and interpretation, along with multiple viewpoints as well as triangulations are strengths that are more important in interpretive research than generalisation and objectivity (Cohen, Manion, & Morrison, 2011; Punch, 2009). More details concerning the recruitment of the sample, its procedure and limitations will be discussed in Chapter 5.

3.5.2 Procedure

For the purposes of the study, existing literature was reviewed and the latest educational documents including national educational policies and curriculum were examined, producing a general overview of the system. The data from this study consisted of teachers' responses in a series of individual (face to face) semi-structured interviews with the participating teachers to obtain detailed information about the phenomeon. The interviews were guided by the observation of the technological infrastructures in the participating schools (if possible), as well as the observation of EFL classrooms to find out what ICT tools, to what extent and how were implemented in teaching-learning activities. In the following sections I will briefly discuss why these methods were selected and how this study was operationalised.

3.5.2.1 Observation

A prominent characteristic of observation, according to Cohen et al. (2011) is that *'it offers an investigator the opportunity to gather "live" data from naturally occurring social situations'* (p. 456). The data that is obtained by entering the naturally occurring environment provides the researcher with more authentic and valid information about the social phenomenon (ibid). This is especially important in research studies with social constructivist approaches to education, because such studies

concern understanding of the processes involved in pedagogy rather than the products (Nunan & Bailey, 2009). This, however, does not mean to '*ignore in any way or try to devaluate the importance of such inputs and outputs. It simply tries to investigate what happens inside the classroom when learners and teachers come together'* (Nunan & Bailey, 2009, p. 258).

The observation of a language classroom as suggested by Bailey and Nunan (2009) and Cohen et al. (2011) is far more than just attending the classroom and looking around. It involves a series of systematic procedures for data collection *'during actual language lessons or tutorial sessions, primarily by watching, listening, and recording (rather than by asking)'* (Nunan & Bailey, 2009, p. 258) to carefully describe what is going on in those settings. This could be mediated by digital audio-visual recording devices, as well as taking field notes by researchers throughout the observations (ibid). But, the presence of the researcher as an outsider along with his/her audio-visual appliances is regarded as obtrusive to the classroom settings. One of the risks that have been suggested is that learners (especially young learners) could be easily distracted, and much of the participants' behaviors that are of interest to the researcher, could be influenced even by the sole presence of the researcher as a stranger (Mackey & Gass, 2005). The power and aim of the observation in qualitative research is to access real events,

activities, and interactions as they naturally occur in the classroom (Cohen et al., 2011; Mackey & Gass, 2005). To achieve this, and to allow participants to get accustomed to the presence of the researcher, he/she needs to spend more time with participants to get integrated in their group (Mackey and Gass, 2005). This was also discussed in the discussion of credibility in previous section.

Observation, based on degree of structure, has been viewed as a continuum between fairly unstructured and highly structured observation (Cohen et al., 2011; Mackey & Gass, 2005; Nunan & Bailey, 2009). In fairly structured observations, as usually employed in quantitative studies, the focus is clear and the researcher breaks events, behaviours or language into chunks and creates a checklist with the predefined categories of the phenomenon to be observed. In the schedule or checklist, he/she includes other details such as how they should be observed, when, where, and how often the predefined aspects of phenomenon take place, and how the information should be coded (Cohen et al., 2011; Mackey & Gass, 2005; Nunan & Bailey, 2009). In contrast to structured observation, in which the researcher is constrained by the coding scheme and checklists, in unstructured observation that is associated with naturalistic enquiry, the main idea or general themes are clear, but there is no specific focus or schedule for specific information. This, enables the researcher to document as much information as

possible that is relevant to research questions, and the data is transcribed and reported in narrative style (Cohen et al., 2011; Mackey & Gass, 2005; Nunan & Bailey, 2009).

The observation that I used for this study was a semi-structured non-participant observation. It was a semi-structured observation in that I had a general and broad scheme for the activities that I sought to explore (i.e. using technology in service of pedagogy), but I did not constrain my observation according to this scheme. The strength of semi-structured observation is that it '*can provide a sharper focus for our research than the use of unstructured observation'* and it also has superiority over structured or controlled interviews that '*can also blind us to aspects of interaction and discourse that are not captured by the scheme but that are important to an understanding of the lesson we are observing'* (Nunan & Bailey, 2009, p. 98).

This was a non-participant observation because I was not a member of the groups of participants, but my attempts were to avoid having any influence on the participants' activities and interactions. To do this, and in order for the events, activities and interactions to happen as naturally as possible, I attended several sessions in the classrooms, so that participants be more comfortable with my presence. To be able to document the large amount of information in those sites and to make

sound descriptions, I took a notebook and pen to take field-notes as well as audio-visual recording devices to obtain more evidence.

Observation has been assigned an important role, because it can allow the researcher to capture real life situation, because what people say may not reflect what they actually do (Cohen et al., 2011). However, one cannot solely rely on observation. This is because '*observations typically do not allow the researcher access to the participants' motivation for the behaviours and actions. For this reason, observation may be most useful when combined with one or more of the other methods'* (Mackey & Gass, 2005, p. 176). In actual fact, the role of the observation in the current study was simply to provide the researcher with useful contextual information to form a basis for subsequent interviews with participants. Observations helped me gain an insight into the whole situation and what questions to be included in the interview. Included in the observation phase of the study was the observation of the overall setting of the schools and their technological infrastructures as well. This was useful to avoid prejudgment and to avoid predetermined and pre-set questions without any knowledge about the specific contexts under study. Accordingly, it could help broaden and deepen my view, as the researcher, to take into consideration any information that could help me in this study. During the phases of observation, I made attempts to take photos and videos whenever permitted to do so.

3.5.2.2 Interview

Interviews are defined as '*conversations between the researcher and those being researched, variously termed participants, subjects or simply "interviewees"*' (Hammond &Wellington, 2013, p. 91). Cohen et al. (2011) '*sees the centrality of the human interaction for knowledge production, and emphasises the social situatedness of research data'*. An interview is, as they put it, '*a flexible tool for data collection, enabling multi-sensory channels to be used: verbal, non-verbal, spoken and hear*' (p. 409).

In the current study, a series of face to face semi-structured interviews were used with open-ended questions to collect more detailed information from the respondents' '*own point of view'* and experiences about the phenomenon under study (Cohen et al., 2011, p. 409). The semi-structured interview for this small-scale study with its specific purpose and design, as stated by Thomas (2013), '*provides the best of both worlds*' (p. 164). It represents a level of standardization of the structured interview, but unlike a structured interview it does not rigidly follow a set of fixed questions that are given to all interviewees in the same way. It represents a degree of the flexibility and freedom of the unstructured interview, but at the same time is more manageable than unstructured interviews (Mackey & Gass, 2005; Thomas, 2013). In the

semi-structured interviews the focus points are clear, and a set of questions or themes or important points are designed as a framework to guide the interview (Gass and Mackey, 2005; Thomas, 2009).

The semi-structured interviews designed for the current study were based on a set of questions or themes or important points (Mackey & Gass, 2005; Thomas, 2013). The questions that guided the interviews were based on the educational and curricular documents, insights from the classroom observations and existing literature (Park & Son, 2009; Samuel & Abu Bakar, 2006, p. 6):

1. What technological tools do you use in your classroom and how do you apply them?
2. What do you think about the use of ICTs in the classroom?
3. What do you think are the advantages of using ICTs in the classroom? What do you think are disadvantages of using ICTs in the classroom?
4. Are there adequate infrastructure facilities in your school to support ICT mediated activities? If adequate, please mention the facilities. If inadequate, please mention facilities that are lacking.
5. If infrastructure facilities are improved would you carry out more ICT integrated activities?
6. Have you conducted ICT-mediated teaching practices before? If yes, mention the tools used and how you have used them.

7. Do you think ICT-mediated language teaching/learning can contribute to students' language development? If yes, how? If no, why not?
8. What factors do you think influence your use of ICT-mediated language teaching-learning activities? to what extent?
9. Have you attended any course about educational technology? Please give details. Do you think you have sufficient ICT skills to confidently carry out ICT mediated activities in your teaching practices in or out of classroom? If the answer is negative, please could you mention the skills that you need?
10. Are the school administration and/or the local district supportive in your endeavour to utilize and integrate ICT tools in teaching and learning activities?
11. What do you think about the future of integrating ICT in EFL teaching-learning activities?
12. Do you have any suggestions to make in relation to ICT-mediated language teaching practice?

The interviews were not rigidly based on these questions and their order (Mackey & Gass, 2005; Thomas, 2013). In fact, not all questions were designed ahead of time and some more questions were designed based on observations or participants' responses in order to elicit more detailed information. Also questions such as years of teaching experiences and

years of ICT use experiences, their access to ICT at home, etc. were included in interviews. In fact, there was a conversation (both supportive and challenging) with a degree of flexibility that a semi-structured interview allows, between the interviewer and interviewees in a relaxed and friendly environment to allow genuine access to participants' experiences, underlying beliefs and views, and to understand what they saw and perceived as significant (Mackey & Gass, 2005; Thomas, 2009). For example participants were encouraged to expand on questions with additional or complementary information, or when respondents answered unasked questions that were relevant to the major theme they were encouraged to continue or their responses were probed by asking for more explanation to clear up inconsistencies.

The interviews were conducted in Farsi/ Persian. All interviews were digitally recorded (with the permission of the respondents) to make sure that the interviews were captured in interviewees' own terms, and due to the fact that I could not just rely on memory. In order to avoid probable breakdown of audio-recording devices, I took some considerations into account and carried out some measures, such as using more than one audio-recorder. I also used note taking whenever needed, but my focus was more on the conversation and took account of details: how they say it, their body language, phrases and specific language etc. The interviews after being recorded, were transcribed in

full, and then wherever needed were translated into English. Each interview with the selected respondents was scheduled to last about approximately 30-45 minutes, but to allow respondents to speak freely about their opinions, perceived issues, and experiences, they ranged from thirty minutes to over one hour dependent on the situation.

The fieldwork was carried out during October-December 2013. In practice, I conducted 3 observations of the classroom practice of each participating teacher, each of which was followed by a 30-45 minutes face-to face interview. Then, in a separate session, a concluding interview was conducted to obtain the same participant's overall insight on the topic. This process was repeated with all participants. In so doing, each teacher was interviewed four times, and with 9 participants, I carried out overall a total of 27 classroom observations and 36 interviews.

In the meantime, keeping a diary helped me to have a detailed history of the research as it developed. It also worked as a reference and could remind me of the reflections I had in previous points of time and contexts or issues that I had faced.

3.5.2.3 Pilot study

A pilot study was conducted with two English teachers who were not going to be the actual participants. A pilot study was undertaken for both

observations and interviews to work out any probable procedural deficiencies. This served as a means to have a final check of the appropriateness of the questions as well as issues like time management and so on.

3.5.2.4 Ethical considerations

In this section, the ethical concerns and issues raised in conducting this study and the measures that were adopted to minimise them are discussed.

A review of the literature (e.g. Cohen et al., 2011; Hammond &Wellington, 2013; Thomas, 2013) about ethical considerations in research studies suggests that while considering that ethical concerns in practical matters are important, researchers should consider the ethics in all aspects of their research including the nature of the study, methodological design, methods of data collection, objectives, the beneficiaries and the way data is analysed and the findings are disseminated. In a discussion of the principles of ethical conduct in search for knowledge, Thomas, (2013) articulated that ethics *'... is about how you think about inquiry, how you think about this research project, it is about your respect for others*' as well as how the study is conducted (p. 146). Respect for people, as suggested by Lindsay (2010), could be fulfilled by taking into consideration the values and beliefs systems of

the participants in research both at individual and societal level. Cohen et al. (2011) offered similar insight into this phenomenon and stated, 'ethics are "situated"', i.e. the particularity and sensitivity of the specific sociocultural and political contexts should be considered (p. 11). In addition, although peoples' values and beliefs systems might differ in various political and religious societies, values are subject to change over time, and the researcher should be aware of them and adopt measures to respect the context specific values of the people who participate in the study (Lindsay, 2010).

Having considered the above discussions, the ethical aim of the study was to ensure that the participants were respected and not harmed by any aspect of this study. As was discussed before, the general aim of this study was to add to the relevant knowledge that could lead to an improved EFL education that would be of potential benefit to the stakeholders and the society. Ethical considerations in this study included concerns about participants' individual, professional, social, cultural and religious sensitivities within the specific context of the study. To this end, several measures were adopted to protect participants' wellbeing and to minimise the ethical problems.

One of the key concepts in social and educational research is the idea of informed consent: '*more than simple agreement...informed consent is needed*' (Thomas, 2013, p.149). Following this suggestion, I

needed to provide participants with '*full information about the possible consequences and dangers'* (Cohen et al., 2011, p. 77). As such, I obtained the voluntary informed consent of the participants for the data collection. In so doing, participants and administrators of the schools that were considered for the study were provided with clear, comprehensive, and accurate information including:

- information emphasising that their participation was voluntary
- information regarding the researcher and the university that supervised the study, and the contact information of the researcher
- the nature and objectives of the study
- the methods of data collection and procedures
- about the duration of the study and the time that was needed for each stage also about the implications of their involvement
- the role of the participants in the study, and what they would be asked to do
- the reason for selecting participants
- the potential risks (psychological, social, or physical) coming from the study
- what would happen to the findings (audio, video, and notes confidentiality, anonymity)
- how the data collected by the research would be used and

published

- the rights of participants including the fact that they could feel free to withdraw at any stage of the research (Hammond & Wellington, 2013; Thomas, 2013)

Overall, their participation was based on their consent and willingness to do so. To conduct this study, prior to data collection, a form called Research Code of Practice was filled in, with full details about the ethical considerations in conduct of research, and was submitted to the university. I obtained Ethical Approval from the Research Ethics Committee at the University of Warwick, Institute of Education (WIE) in June 2013 as required by the university (See Appendix A).

Participants were professional adults with less potential sensitivity than for example young children or adolescents; nevertheless, I adopted some safety measures that could limit potential risks. In so doing I used the strategies that were suggested by Lindsay (2010):

- assigning codes to participants
- not mentioning the name of the participated schools or any other information that lead to the participants identification
- taking care in quoting parts of their statements to limit the likelihood of identification
- fairness, and accuracy in the process of working with data
- storing the information collected in all forms (notes, videos,

audios, ...) in a safe place with extra care

- and finally to make sure that in analysis and reporting findings, I was honest and trustworthy

3.5.3 Data analysis

Given the epistemological and theoretical assumptions that underlie this research, thematic analytical approach was used to uncover the complex and multi-layered nature of the meaning within and across the data (Braun & Clarke, 2006, 2012). I used thematic analysis based on the analytical guidelines suggested by Braun and Clarke (2006, 2012). Codes that were developed through the thematic analysis of the individual data led to development of key patterns or themes across the entire dataset. Using this approach, from the very initial stages of coding, I reflected on the observable and underlying constructs in the interview comments and took notes about my thoughts and reflections. To show the processes of coding and creating themes, in the following sub-section the processes of data analysis that led to the identification of the key themes will be explicated.

3.5.3.1 Data analysis procedure

The thematic analysis of the data was conducted using the computer assisted data analysis software, MAXQDA. Interview accounts (audio

and transcripts) were reviewed multiple times in order to check the accuracy of transcripts and to get a sense of the data. The data, then, were imported into MAXQDA for analysis. As an example to display how the transcripts were coded, a screenshot of the coding of an extract of one of the interviews is presented in Figure 3.5.

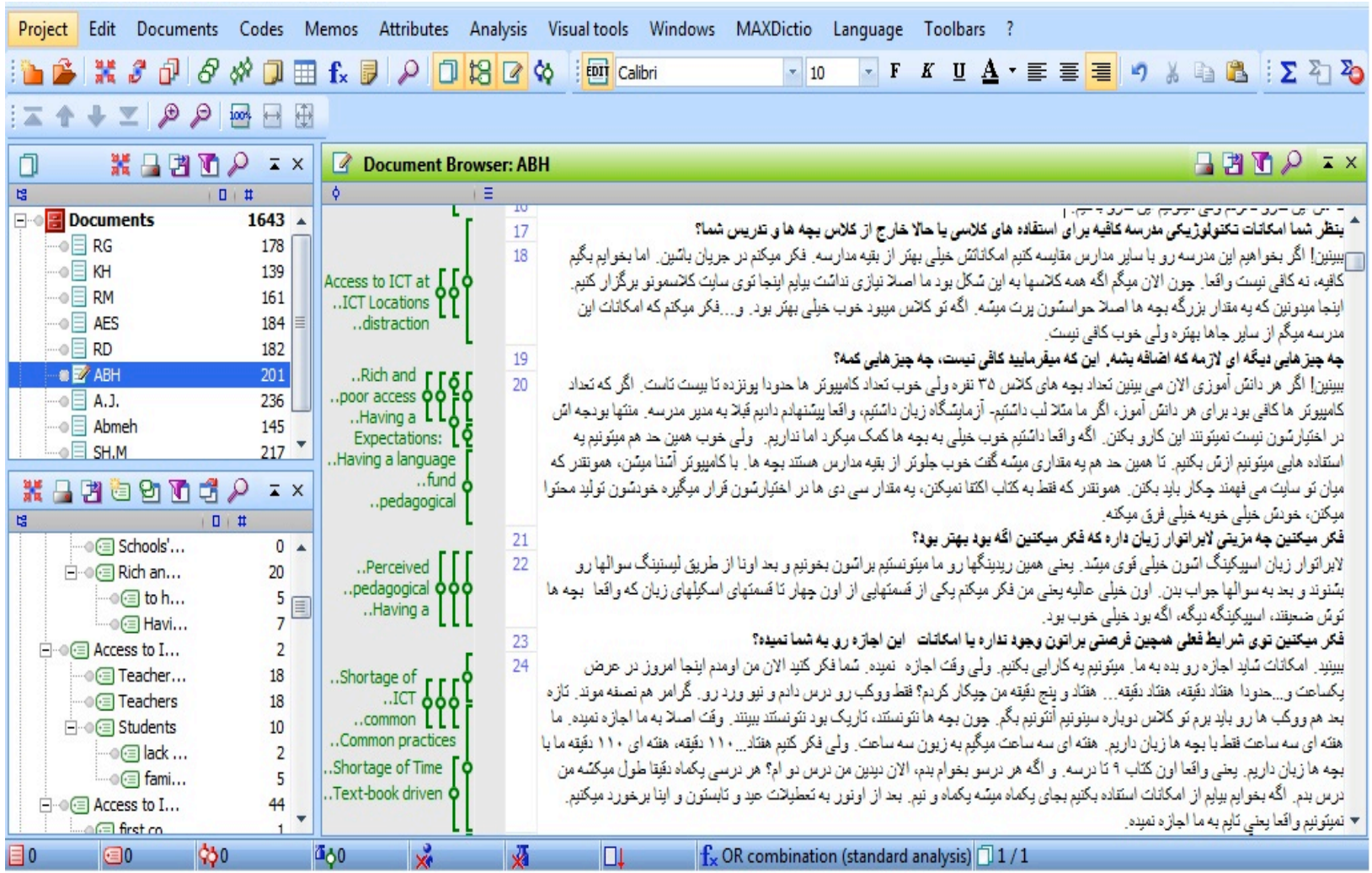

Figure 3-5 A snapshot of the interview transcript of a case being coded using MAXQDA

The extract in the screenshot has been translated in table 3.3.

Interviewer:	Do you think that technological resources available in this school are adequate for your and the pupils' in or out of classroom teaching learning practices?
Interviewee:	You know, if we compare this school with other schools, well it is much more well resourced. I think you might be aware of this. But whether it is adequate, not really, because if all classrooms were digitally equipped, we didn't need to come and hold our classes here in the computer site. You know, this room is a bit large and students get distracted. It would be much better if it was in the [regular] classroom. And I think that this school's infrastructure is better than other schools, but, well, it's still not enough.
Interviewer:	What else needs to be added? You stated that it is not adequate, what is missing?
Interviewee:	Now, as you can see, the number of students is 35, but the number of computers is 15-20. If the number of computers was adequate, if the number of computers could adequately meet the learning needs of all students, if we had a language lab for example, we have actually suggested the school principal to establish this, but they lack fund to provide it. Actually if we had it, it could meet students' needs but we don't have it. Well, the existing equipment is still of some use. Still it can be said that in this respect students' in this school are ahead of students in other schools, to the effect that they get familiar with computers and their coming to the computer site help them figure out what to do, to the effect that they are not limited to textbooks; they are provided with CDs and they create material on their own, which are advantageous for them.
Interviewer:	What are the advantages and benefits of having a language lab for your practices that you think it would be better if you could have access to it?
Interviewee:	In a language lab their speaking would improve to a great extent, meaning that we could read the same reading comprehension texts and they could listen to the questions and answer the questions. That would be great, because I think one of the weakest areas in all four skill areas for students is speaking; if it was available it would be great.
Interviewer:	Do you think that under current conditions you are not provided with opportunities to do such activities or the existing infrastructure does not allow you to do that?
Interviewee:	You know, the existing infrastructure may allow us, we can do some activities, but time does not allow us. What do you think I did today in around seventy or seventy five minutes here [in the computer room]? I just taught vocabulary and new words. And my grammar instruction remained incomplete. I even have to repeat the vocabulary in the classroom and teach synonyms and antonyms anew; because the room was dark and students were not able to view [the screen] appropriately. Shortage of time does not allow us at all [to use technology]. We have only 3 hours a week for language instruction. It is nominally 3 hours, but in fact I think we actually have around 110 minutes language teaching. The book has 9 units each of which takes around one month for me to teach. Did you notice that I was still partway through Unit two? If we are to use such [ICT] devices, it will extend this time to one month and a half. Then we will have the [Iranian] New year and Summer holidays, among others. We can't really; I mean shortage of time does not allow us.

Table 3-3 The translated content of the extract in Figure 3.5

In the extract (following a question regarding the quantity and quality of the school's technological tools) a general question was asked to draw the interviewee's opinion about the 'adequacy' or 'inadequacy' of the school's infrastructure. And because I was looking for both answers and reasons for answers, and to probe further information related to this question, more questions were asked. As a result, in addition to the participant's opinion about the adequacy of available technologies, further relevant information was obtained. These responses during the initial data analysis were coded as: lack of access to ICTs in regular classrooms, ICT locations at schools, student-computer ratio, participant's expectation and need, lack of fund as well as other issues such as shortage of time, textbook driven curriculum, pedagogical beliefs of teachers, participant's current patterns of ICT use, perceived ICT affordances and limitations, and common pedagogical practices of the participant were obtained. After each individual interview was conducted, it was initially reviewed and analysed and notes were taken including both a summary (or outline) and a preliminary analysis that then was communicated with the same interviewee in the following interview/s. This helped me to obtain feedback from the interviewee on the researcher's interpretations and also to elicit more information on specific points details of which were missing in the previous interview/s. As can be seen in Figure 3.5, the initial coding process of individual

segments of transcripts resulted in a clustering into codes. During the initial and main coding process, I was looking for both explicit and implicit ideas or as Braun and Clarke (2006) term them, 'latent' and 'surface' meanings in the entire data. The initial coding process that was conducted from 'within' the individual interviews was followed by comparing and making links between codes 'across' the entire data set, and grouping similar or related codes under broader labels (Braun & Clarke, 2006, p. 81). For example, three of the codes identified in the above extract were: 1) lack of access to ICTs in regular classrooms, 2) ICT locations at schools, and 3) student-computer ratio, were grouped together under the label 'access to ICT at schools' (See Figure 3.5). As the analysis proceeded, some parts of the texts were assigned to the previously defined codes and some new codes or categories became apparent. For example, the code 'ICT locations at schools' that was initially a single code, turned into a broader category and included several codes: conference hall, computer site, Physics lab, etc. During the process of revisions, recoding, finding lower level and upper level categories of the data the essential themes were developed. But still the number of themes that were related to the same category needed to be organised. For example such categories as 'access to ICT at schools', 'the curriculum and exams', 'teachers' pedagogical perspectives', 'issues related to continual professional development (CPD)' and other

categories that were disincentives to ICT use were clustered together under an overarching theme labelled as ‘serious impeding factors to integration of ICT’; needless to say some of the labels were revised over and over again. As such, overall, three overarching themes with their subthemes were identified:

1. common professional application of ICT by teachers
2. serious inhibitors and motivators of ICT integration from the perspectives of teachers
3. perceived necessary conditions for the integration of ICT

The framework of analysis that I used in this research sought an understanding of pedagogical practices in classrooms, and in relation to the whole education system and society at large. In the next chapter the thematic categories, as reflected in the data, supported by direct quotes from participants will be presented.

CHAPTER 4. Findings

4. 1. Introduction

In the previous chapter detailed description of the epistemological, theoretical and methodological characteristics of the study was presented. This chapter presents the findings of this qualitative multiple-case study. It seems worthwhile to recall that underpinned by a socio-cultural epistemology, this qualitative study aimed to explore participants' perspectives on the integration of ICT (information and communication technology) tools into their teaching. The focus was to obtain in-depth and context-specific knowledge and insight into the integration of technologies into EFL instruction in the context of Iranian schools and multilevel (micro, meso and macro) factors that have influenced and shaped the perceptions and practices of these teachers on the topic. In so doing, data was collected based on face-to-face individual semi- structured interviews. But ahead of conducting interviews, observation of EFL classroom practices and the technological infrastructures in the participating schools was carried out. The observations provided useful contextual information to form a basis

for subsequent interviews with participants. Table 4.1 represents the timeline of observations and interviews.

N Days	Date (2013)	Data collection method	Participant
1	20/10	Observation & Interview	Isac (A)
2	21/10	Observation & Interview	Khatereh (A)
3	27/11	Observation & Interview	Jafar (A)
4	28/10	Observation & Interview	Davood (A)
5	02/11	Observation & Interview	Hosna (A)
6	03/11	Observation & Interview	Jafar (B)
7	04/11	Observation & Interview	Khatereh (B) & Davood (B)
8	05/11	Observation & Interview	Mehri (A)
9	06/11	Observation & Interview	Ghadir (A)
10	10/11	Observation & Interview	Isac (B)
11	11/11	Observation & Interview	Davood (C) & Mostafa (A)
12	12/11	Observation & Interview	Mona (A)
13	16 /11	Observation & Interview	Hosna (B)
14	17/11	Observation & Interview	Jafar (C)
	”	Interview	Jafar (D)
15	18/11	Observation & Interview	Khatereh (C)
	”	Interview	Khatereh (D)
16	19/11	Observation & Interview	Mehri (B) & Mona (B)
17	20/11	Observation & Interview	Ghadir (B)
18	23/11	Observation & Interview	Hosna (C)
	”	Interview	Hosna (D)
19	25/11	Observation & Interview	Mostafa (B)
	”	Interview	Davood (D)
20	26/11	Observation & Interview	Mehri (C)
	”	Interview	Mehri (D)
21	01/12	Observation & Interview	Isac (C)
	”	Interview	Isac (D)
22	02/12	Observation & Interview	Mostafa (C)
	”	Interview	Mostafa (D)
23	04/12	Interview & Observation	Ghadir (C)
	”	Interview	Ghadir (D)
24	10/12	Observation & Interview	Mona(C)
	”	Interview	Mona (D)

Table 4-1 Timeline of the observations and interviews

Although participants' contexts were different, because of the centralised education in Iran and the central curriculum and similar school regulations, there were lots of commonalities between participants' shared views on the phenomenon, and their practices. The findings of the current research project suggests that the existing conditions of the educational system did not lend itself to application of ICTs in classrooms, let alone innovative ICT integrated pedagogies. In this chapter, the contradictions and tensions that were perceived and experienced by teachers will be identified. This allows for the analysis of the broader context in which we can then identify the sources of change that can lead to the physical and social reformation of their activities and achieving the intended outcomes. The results in this chapter are presented through a thematic framework that resulted from the analysis of the observation led interviews. This will be supported by the verbatim translations of participants' quotations from Persian.

The current chapter will be structured as follows. First, a brief overview of the way ICT was used by participants will be presented. Then, the perceived serious inhibitors of ICT integration are outlined, and it will be briefly discussed how these multilevel factors have influenced and shaped the perceptions and practices of participants. And finally, the perceived conditions for the successful integration of ICT will be presented.

4. 2. Participants' applications of ICT in instruction

Despite the fact that participating teachers had the privilege of accessing educational technologies comparing to their counterparts in many other schools, their ICT use for instructional purposes were minimal. The following sub sections will look into common uses of ICTs in classrooms in terms of quality and quantity.

4.2.1 The quality of the usage of ICT in instruction

Participants identified that they were mainly using ICT:

- to create the material (presentations, handouts, tests)
- to browse the web in search for materials for delivery in class or student' use at home (e.g. handouts, videos, tests)
- for their own online professional learning
- to communicate with students (in mother tongue) to assist them in their work (via email, mobile conversation, text messages)
- to communicate with parents or colleagues (via the same methods);
- to put students' marks or other information on the schools' website

Some teachers reported they were just getting started with the educational technologies in classrooms and as such they had little or no experience of technology use in teaching. Some teachers were more

experienced and more competent to work with presentation software such as PowerPoint or Builder. These competent teachers simply chose words, structures, and reading passages from the lessons in the book and converted them into presentation slides. Still others used presentation packages that were available in market to present the material, and simply moved content from the textbooks to screens:

> *Well, today we used the Interactive Whiteboard and a computer to work on mock tests downloaded from internet, we used the Microsoft Word software capabilities for this; and then we used a CD for a multimedia presentation of vocabulary list in the form of audio-video and text. (Davood, 56[1]; A[2])*

> *My ICT use in class is limited to a CD that is played to the whole class, what you observed today, a narrator reads from the unit or pronounces words, and students get acquainted with the appropriate pronunciation of the words and sentences. (Mona, 148; B)*

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[1] The paragraph number of transcript in MAXQDA

[2] The interview session (See Table 4.1)

While few teachers viewed such practices as beneficial and were happy with their ICT-mediated presentations, most teachers viewed their practices as the poor use of the technology:

> *In these two sessions that you attended, I can say it [our technology use] was just simply limited to displaying content for presentations… whether or not this is sufficient, well, in my view this is insufficient. (Jafar, 6; A)*

The emphasis in the responses of all participants, including those who were happy about their technology use, was on multimedia presentation and practicing language exercises such as:

- Fill in the blanks
- Sentence matching
- Listen and repeat (vocabulary, phonetics)
- Drill and practice
- Mock test questions

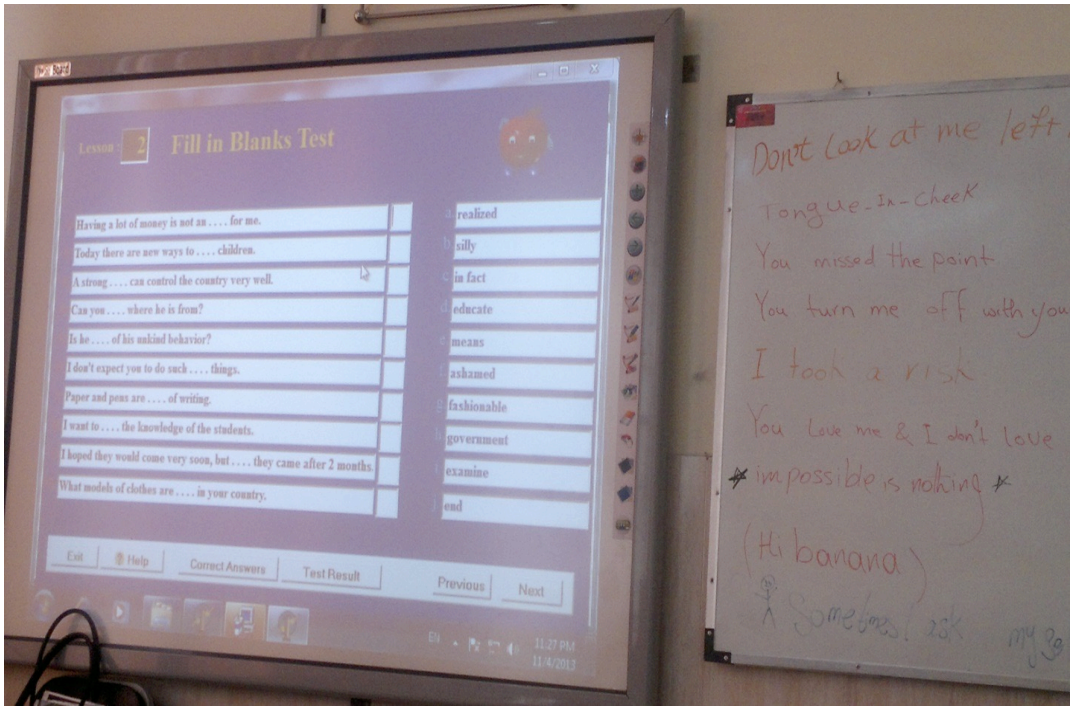

Figure 4-1. One of the common uses of technology was drill and skill practice

While most teachers expressed positive views about the application of ICT, even teachers who felt more confident and comfortable with technology use, and expressed their willingness for ICT uptake in their classrooms, reported that their technology use was limited and that they did not use technology to its maximum effects. Teachers' comments on their actual ICT use or desires indicated a lack of use of technology for social learning through simulation/ gaming, using social media such as Wikis, blogs, chat rooms, discussion boards, and other social networks (such as Facebook). Their comments indicated that technology was not exploited for its maximum potential to develop students' higher order thinking skills such as critical thinking, problem solving, collaborative,

communicative and interactive skills. For example, few teachers used mobiles to communicate with parents or students and some used emails, email was used much less than mobile though. There was a lack of any technology use that could foster student-student interaction or collaboration. Drawing on the participants' comments, it does seem that even in simply improving the delivery of content technology did not play a significant role let alone supporting a change towards an ICT integrated communicative EFL pedagogy.

4.2.2 The quantity and the frequency of the usage of ICT in instruction

Except for one teacher, who said was using Smart Boards for presentations often, other participants' ICT use for classroom practices was limited, and was not on a regular basis. In spite of the fact that teachers had the advantage of teaching in some of the most digitally and socially advantaged schools, their ICT use was limited. For example Hosna believed that her school was more digitally equipped than many other schools in the region or in the city, but only a small percentage of her total teaching time or curriculum time was spent using ICT. Most participants cited shortage of time as a serious barrier to technology use:

Maximum 3 times a (scholastic) year per classroom… I do not have enough time to take my students to ICT rooms …at most 3-5 times a year'. (Hosna, 78, 86, 88; A)

Students show great interest in it. For example, this class always asks for watching films. I do not have time whatsoever to show any video. But because this is a good class and makes good progress, I have promised to show them a film during the year. (Mehri, 84; A)

To encourage teachers to implement ICT in their teaching practices, at some schools ICT uptake was point or award bearing. Participants said that as a rule, teachers who incorporated ICTs in their teaching would be granted credits; these credits were needed for teachers in order for them to be considered as qualified for continuing their profession. Some teachers believed that points could not provide enough impetus for them to welcome this daunting task of ICT uptake. However, some teachers expressed the fact that they used some ICT tools to simply demonstrate that they were using technology in their classrooms in order to get credits or qualifications to successfully pass teachers assessments. Jafar (282) pointed out that there were lots of resources available online or in the market if teachers and schools were willing to use, but, in his view '*some schools especially private ones, just try to act smart in order to*

attract more students and operate profitably in their educational business, but in actual fact they do not have a real technology application'. (Jafar, 282; C)

> *I have a positive view, but this is not enough. What percentage of this educational system is an individual teacher? I constitute, let say, in a school with 30 personnel, only one thirtieth. Even if I pressurize myself by taking a bigger share of the work and clock up to one-tenth, i.e. ten percent of the whole work, then will the rest 90 percent be in agreement with me?...even if I want, the system will not allow me achieve my goals…unless the system undergo a fundamental change. (Jafar, 284-286; C)*

This finding suggests that while the concern in the literature is on how to improve teachers' use of ICT to enhance pedagogy, the primary concerns in the context of participating schools seems to be how to motivate teachers to use technology at all.

4. 3. Factors influencing teachers' technology use

In the following sub sections, some of the main influencing factors from the perspective of teachers are outlined.

4.3.1 ICT infrastructures in participating schools

This section provides a brief overview of the ICT infrastructure in participating schools as well as information on such categories as the levels of access, frequency and ease of access with ICT. It is evident from the data that technological tools became available to participating schools only in the more recent years and for some teachers it was the first year that they had access to ICT or they were experiencing using ICT at school.

Schools did not have equal access to ICT, and their access varied from two computers, a single data projector, and single Interactive Whiteboard (accommodated in an ICT room) in the worst funded participating state school to Smart Schools with around 50 computers (accommodated in clusters across the school) in a smart state school, to a Shahed (Martyrs' and Veterans' children) school with all classes equipped with Interactive Whiteboards/video projectors connected to computers, and the Gifted School with around 66 desktop computers at computer sites, 6 laptop computers to be supplied on demand and all regular classrooms equipped with video projectors:

> *To my knowledge, installing video projections in almost all classes has been mandatory, and currently all classes are equipped with it if you had noticed (Isac, 196)…The number of*

laptops that are available at this school are a total of 6 laptops (198)…the computer site is accommodating computers in consistence with the maximum number of students in a class that is 33, so we have 66…I think there are around 66 computer chairs, with 33 cabins in each ICT room. (Isac, 216-220; C)

And in the poorest participating school:

In this school we have only one class equipped with an Interactive Whiteboard and a computer with Internet connection…we also have a video projection… (Davood, 2-10; A)

Table 4.2 provides information on ICT tools available to teachers in participating schools. It is noteworthy that the Gifted Students School is highly selective, and students should have a record of high marks (A level) and need to pass the school's entrance examination to enrol. The Gifted School was the only school in this study that had an English department, in the sense that a manager/supervisor had been assigned to lead and manage the English programme within the school in line with the school's priorities. Students in each grade, or year group, had been assigned to different classes based on their performance in placement tests. This setting was in order to achieve a degree of homogeneity in class in respect to language ability.

School	School ICT Tools	Teacher	Observed class size
Gifted Students School	66 computers in computer rooms overhead projectors in all classrooms 6 laptops	Isac Jafar	16 16
Martyrs'/ Veterans' Children School (Shahed)	Interactive Whiteboards/overhead projectors in all classrooms 1 computer room	Khatereh	30
State School (Dolati)	2 computers 1 overhead projector 1 Interactive Whiteboard	Davood Mostafa	30 30
Smart State School	1 computer room with around 20 computers	Mona	37
Smart State School	50 computers 4 overhead projectors in 1 ICT room, 1 community room, and 2 science labs	Hosna Mehri	35 38
Governed/Funded by a Board of Trustees (Hey'at Omanaei)	4 computer rooms equipped with Interactive Whiteboard/overhead projectors, computer intranets	Ghadir	32

Table 4-2 ICT infrastructures in schools

Except for one school, whose teacher was happy about the quantity and suitability for purpose of computers and Interactive Whiteboards (but not internet, software, CDs/DVDs supply), teachers in all the other participating schools complained about the lack of, or shortage of such devices in their classrooms. In most schools, teachers complained about unavailability of computers especially to connect to existing video/data projectors as a major missing component:

> *We were supposed to be provided with laptops to use in class…but now we are struggling with inadequate equipment…this laptop belongs to one of the students and this was the second session that he brought it. In the class we have only a video projection*. (Jafar, 3; A)

The student-computers ratio was another issue that teachers complained about:

> *Now, as you can see, the number of students is 35 but the number of computers is 15-20.* (Hosna, 20; A)

Lack of adequate supply of software was but another issue reported by teachers. As such, teachers who were motivated to use software, because software packages were not available to them in schools, they had to purchase their required software on their own. And finally, although all schools had access to Internet, Internet access was not provided in regular classes.

4.3.1.1 Insufficient technical support

Technical aspects of the technological devices and the amount of time that needed to be spent to set up the equipment prior to usage were reported as serious disincentives. In one school, there was no policy in

place for purchase, replacement, disposing and providing technical support whatsoever. In this school, teachers needed to find out solutions and resolve technical issues on their own, or with the help of more tech savvy students or colleagues. In another school a number of tech savvy students had been assigned and been given authority to fix technical issues upon request. In the other 4 participating schools, a member of staff, called Deputy for Technology, was responsible for managing the school's ICT infrastructure and all aspects of ICT services including providing technical support to staff and students. In these schools computer sites were usually staffed by technology deputies.

While a small number of teachers were happy with the support that the relevant staff provided, most teachers complained about waiting a long time for such support, and still there were teachers who complained about lack of or inappropriate maintenance and technical support. Technical issues were viewed by teachers as serious barriers to their technology use. Mona said:

> *As an instance, now we are having issues with these speakers. In my class, if you had noticed, I was keeping audio cables all the time to keep the laptop computer connected to the external speakers …, because due to some issues with the cable or ports, it could not be adjusted properly and all my attention and attempts*

during the lesson were paid to keeping the cables that were plugged into the supplied speaker in place. … my thumb at the end of the class was numb. (101; A)

4.3.1.2 Level and ease of access- ICT locations in schools

In almost all schools (except for one Shahed school in which majority of classes were fitted with Interactive Whiteboards and computers) one of the issues was that ICT tools including Interactive Whiteboards, computers, and video projectors were situated in one or a few number of rooms such as labs (chemistry, physics, and biology), computer sites or community/meeting rooms. As commented by teachers, a Physics or Chemistry lab space was not suitable to teach English. A problem associated with labs or computer sites as perceived by teachers was that they could not provide for English teachers' and students' comfort in terms of the size, the shape of the rooms, their capacity, lighting, and temperature. They raised the issue of viewing distances and angles in these ICT rooms that were not appropriately designed for ICT mediated English instruction:

Furthermore types of furniture and their arrangements that were specifically considered for other subject areas such as Biology, Physics or Chemistry could not provide the environment for desired foreign language pedagogy. Mehri complained that a lack of pathway from the

front to the rear of classroom, when she held her class in science labs, prevented her from being able to walk across the classroom, and as such, she was limited to the front of the classroom and this inability to move affected her class management. She said that in a biology lab where she was teaching English there were students in the rear of the class who seemed to be off task or doing something other than class tasks, but she was not able to walk across the class and monitor them properly. Hosna (24) said that, in labs and computer rooms, due to the distance from the screen, students were not able to see the screen well. She added that in order to prevent light reflecting from windows, they had to switch off lights and as a result students were not able to take notes in the dark room (Figure 4.2). She had to repeat her teaching session in their regular classroom with chalk and board, which was more beneficial in her view.

Figure 4-2 A teaching session held in a computer room

Mehri, who experienced the same issue, said,

> *Today I took my students to the conference hall. But they were so far away from the screen that they were not able to see it fully; the distance was around ten meters, so it was difficult for all students to clearly see the displayed information; this is a big issue.*
> (Mehri, 92; B)

In another reportedly smart school, Mona said that one reason why she was not using the computer room was that the ICT room in her school was in a basement, adjacent to the central heating unit system, and when the heating system was turned on, it smelt strongly of gas that made it almost impossible to work in the ICT room. Hosna, who had to take her

students to a science lab or computer site in order to have access to technological media, believed that students easily get distracted and this room change made it even easier.

Availability of these ICT rooms or supplying technological devices when needed was another issue. A number of responses to interviews suggested that due to the limited number of ICT rooms, or shortage of technological tools, the teachers' needs could not be met. Allocations of ICT suites depended on availability and teachers had to book them in advance. They mentioned this booking of ICT rooms, or computers and other equipment for their regular classes, as a major disincentive for ICT use. This led to most teachers to avoid using it. Mostafa was teaching in a school that had only one room equipped with ICT (an Interactive Whiteboard and a computer). He had planned to run his class in this ICT room, and had booked it in advance, but due to unforeseen circumstances his booking was cancelled:

> *We have got only one ICT room in this school. Today we couldn't hold our class in the ICT room, because there was a meeting and they needed this room, so I couldn't apply ICT in my teaching.* (Mostafa, 89: B)

As a result, he had to hold his class in their regular classroom with chalk and board.

Even in the presence of smart boards or overhead projectors, the shortage of complementary equipment such as computers rendered them useless. Teachers expressed that in the absence of some resources they needed to spend time setting up the required devices. For example, a lot of preparation and set up time needed by teachers was highlighted as one of the barriers to successful delivery of the lessons. Teachers also complained about lack of immediate technical support, and perceived this as wasting the class time and impeding the teaching learning activities. Such limitations led to teachers to cancel their ICT use:

> *The video projector which I said was available in this school needs a laptop in order to play my flash. But I do not have a laptop. And the laptops that are available to teachers at school are limited. Most teachers who come early take the laptops, and there are no more available… As such, I should look for one or ask students to fetch a laptop, and then setting up the device so that the signal is sent to the projector wastes around 10 minutes of the class time. At least 10 minutes,…if this 10 minutes could be saved, I might have used video projector in my teaching practices.* (Isac, 154: B)

> *We had the projector connected to one of the students' laptop.* (Jafar, B)

Figure 4-3 An overhead projector in the absence of computer remained unused.

4.3.1.3 Internet connectivity

There was no internet connection available in classrooms in all 6 schools. None of the teachers used internet in classroom or in ICT sites or labs. For example, Jafar who was excited about the phonetic practices on BBC website, printed them off and gave the handouts to his students.

4.3.1.4 Mobile phones

Mobile phones were mainly used by school administrators to communicate with parents. A few teachers used mobile phones to establish communication with students out of class hours. However, this

was not regular, and was limited to the exam periods, or to hard-working and well-behaved students.

Although mobile phones had been introduced as an educational tool in teacher training programmes to support teaching learning activities, teachers ignored them for such purposes. Some teachers did not know how to use mobile phones to enhance learning, and some others, who had been trained in using mobile phones for instructional purposes, choose to ignore them for practical reasons. For example, Mehri and Hosna reported that they had received such training, but one of the issues to implement mobiles in their teaching-learning activities was lack of access to their required software, and the second issue was that due to a mobile phone ban being enacted in Iranian schools, students were not allowed to bring their mobile phones to schools. This included other mobile technological devices such as tablets, netbooks, or laptops as well.

4.3.1.5 Teachers' awareness of technological resources available at schools

Most participants appeared not to be knowledgeable about technological infrastructures that existed in their schools or ICT related policies that were in place. Along with the observation of classroom practices, contextual data on the technological infrastructure were collected

through observations and/or obtaining information from schools' administrators or technology deputies (where available, and if possible) before or during data collection in order to provide a rich context for interviews. Through interviews, participants explicitly or implicitly expressed that they were not sure what resources were available in their schools. For example, Jafar was not certain about the availability of internet/Wi-Fi in his class. In several interviews, a number of times he highlighted the advantages of internet as a useful instructional tool that could be used in classroom; but each time I asked him about availability of internet in his classroom, he pointed out different views:

> *Internet in class, no, no, we don't have access to internet.* (23; A)

> *Yes, there is Wi-Fi access [in class] and one of the students seemed to have had connected to it.* (27; A)

> *If we had internet access [in classroom], I could have web-based teaching.* (43; A)

> *Mm, yes, the school has Wi-Fi, and students apparently seem to be connected.* (213; C)

The reason, as Isac stated, was that he had never used the internet in any of his classes. Factors involved seem to be far more than mere availability of ICT tools (more on this later).

Ghadir was another case who did not appear to know much about his school's technological infrastructures. Before he admitted this, in the first interview, when I asked him what ICT tools were available to him in his school, he answered, '*unfortunately the only thing that we currently have got is just a CD player'*. And he complained that the CD player was defect. I asked him about the Interactive Whiteboard and the computer that I observed in his class, and then he acknowledged the presence of these devices and said that it was the first session that he was teaching in this class and because of an issue with the computer socket he was not able to use it. I asked if there was anybody in charge of providing maintenance and technical support and he responded:

> *I have no idea. I don't know. Believe it or not I am not aware of who has such a role; who is the technical staff. (93; A)*

The next session he was using the Interactive Whiteboard and the computer (the issue had been sorted out). Later, he said that there were tech savvy students in the school who had been given responsibility (by school administrators) to provide technical support, and they were always available to support. During the interview, he said that he did not

have adequate information about schools' ICT resources and asked me to ask the principal for any information on this. Over several sessions of observations and interviews, the school's ICT resources were found to be 4 computer rooms equipped with Interactive Whiteboard/video projectors, computers, and a range of other hardware or software. He said that in a meeting, the school had provided teachers with detailed information about the ICT tools available at the school and how to use them, but he was absent and not motivated enough to follow these things when he was back. This indicated that he did not know much about ICT resources available in his school, something he then acknowledged.

Mona from another school explained the computer site in her school:

> *There are computers that are connected to the internet, a number of CDs in a shelf, and I borrowed the speaker from there. I don't know. I haven't been there that much. What is apparent from visiting there is that there are almost around 20 computers that are all connected to the internet, and a CD shelf and such appliances.* (Mona, 166; B)

She also was not aware of the number of classrooms equipped with ICT:

They are probably 2 or 3, I am not sure, and you'd better ask the principal about this. (Mona, 142; B)

Another participant, Isac, who was not quite sure about Internet connectivity in his class, offered a reason for this lack of knowledge:

To my knowledge, the internet is not available in this school. The school internet is only available in the computer site, and this limits the accessibility of the internet for classroom use. Perhaps the limit was the one that we drew and kept ourselves away from that. I mean we lacked the audacity to have site-based teaching practices. It may be our own fault, but at least I know that this is not practical to us. It rarely happens that we [teachers] implement the internet and practice an internet based pedagogy. At least it has not been possible so far for me to make use of it. I have never used internet for teaching. (Isac, 12; A)

I asked participants whether they would be using ICT more frequently and more effectively if they were provided with comfortable access to technology. Their answer was negative. Participants' comments highlighted other interrelated factors involved: lack of certainty about the benefits of ICT use for their own classrooms given the current curriculum, issues related to the current curriculum and

content, lack of adequate teacher professional development and training, and other contextual factors were mentioned. More details on each one of these will be presented in the following sections. But one of the key points that participating teachers mentioned as reasons for their limited ICT use highlighted the significance of the curriculum to which they had to conform. At this point, the discussion of the theme 'influencing factors' continues with teachers' perspectives of the current curriculum and how it has influenced the integration of ICT in schools.

4.3.2 Nature of the curriculum and instruction

Teachers complained about textbooks and curricula as barriers that were running counter to any attempt to technology integration:

> *In my opinion, the issue that we face in teaching English is not merely these [ICT] tools; the issue is the textbook. The main issue, the main issue that we have in the education is the state-mandated textbook.* (Ghadir, 338; D)

> *Due to some external factors such as being forced to cover all the mandated textbook content, we face time limitation [to apply ICT effectively] (Khatereh, 280; D)…but if I can have access to more adequate instructional material I think I can have more ICT application* (Khatereh, 304; D).

Most teachers highlighted the existing EFL curriculum and the mandatory textbooks that were in practice at the time of the study as one of the biggest problems not only disincentive to ICT integration, but causing the inadequacy of the EFL programme in Iranian schools.

> *The textbooks do not adequately prepare students for the type of speaking English needed after having been three years in middle school and 4 years in high school. (Ghadir, 338; D)*

The responsibility for designing textbooks and planning the curriculum lies with the Textbooks Design & Writing Office of the Iranian Ministry of Education. The Ministry is actually responsible for the character and content of the educational material that determines what happens in classrooms. Schools and teachers across the country should conform to the core curriculum that Iranian ministry of education puts into effect. In so doing, the same textbooks are approved, published and distributed across the country. But the major issue, as the teachers complained about, was that although textbooks were published every year, at the time of the study, they had remained unchanged for over two decades. And all the old material had been repeated without any changes in the newer publications, so that the new generation were being taught exactly the same material and with the same style that their teachers and

me (now as a researcher) had been using at schools more than 2 decades ago:

> *To my knowledge, the 2nd and 3rd graders textbooks that I have been teaching for 27-28 years have remained unchanged. The 3rd graders textbook underwent a change around 17-18 years ago, that was not a fundamental change, actually only one unit was eliminated.* (Mostafa, 258; C)

> *...Now some units present information that ...are absolutely so funny and ridiculous to children, for example in the 2nd graders textbook the price for a men's suit has been mentioned as 500 Toomans, and [given the value of money having been shrunk rapidly ever since] this is really funny, these days you don't even get a bag of corn puff for 500 Toomans.* (Mostafa 260; C)

> *Let me add a point. I have been teaching for 18 years and the textbook has remained unchanged throughout all these years, for worse or better. The book has remained unchanged and some of the information that it presents are so much out-dated, for example in a question about prices of certain goods the answer that is offered is 20 Tooman! Just 20 Tooman, well this is by no*

> *means in keeping with value for money in the current situation. Books are not updated.* (Hosna, 106; B)

Teachers expressed their frustration about the out-dated textbooks that were neither interesting to students, nor teachers:

> *The textbook's appearance and content are not attractive to students.* (Khatereh, 50; A)

> *Again because the textbook is dreary and has an expository/ informational text structure, it is not that engaging.* (Mostafa, 258; C)

> *After having been teaching for 18 years, I am really bored, the same textbook and the same method of teaching without any change.* (Hosna, 114; B)

Teachers put into question the out-dated and inadequate pedagogical principles in the textbooks. They contended that textbooks' entire texts and exercises had been designed based on the traditional pedagogical models that were not interactive and collaborative in nature (Mona, 32, 218, 219). This meant that the existing textbooks, in participants' views, neither seem to fulfil today's students' needs, nor lend themselves to

integration of new technologies. To give a few more examples that brings this issue into attention:

> *…I wonder based on what approach the textbook has been written, and in my opinion it is not supported by any approach or teachable with any methodology. We can amuse students with the textbook but it is not an effective source for communication and does not allow the opportunity to teach them communication.* (Ghadir, 339: D)

> *Our textbook has been written on a grammar-based approach.* (Mona, 99; A)

> *The book was designed at a time…based on translation and reading comprehension, which at the current time is not engaging enough (Davood, 48; A)… In fact, it has placed less importance on grammar with its focus being more on reading comprehension. The student is provided with the translation of a passage and s/he memorizes a set of lexis and then forgets them. That's all.* (Davood, 50; A)

> *The textbook is merely focused on reading and writing skills. Neither speaking nor listening components are included in it. This means we have no listening practice at all.* (Isac, 148; B)

Teachers said that they had been advised to use the communicative approach and to promote interaction and communication in their classrooms, but as they complained, with the current curriculum there was a long way from concept to reality.

In addition to the theoretical and methodological problems, textbooks were considered to have serious practical flaws. An important flaw that was associated with textbooks, as expressed by teachers, was that textbooks seemed to have been designed to have an accompanying audio/video CD but actually the Ministry of Education that was responsible did not offer the CDs along with the textbooks.

> *You know Ministry mandated textbooks that we teach, are not supplied with any software and they have no theoretical/methodological base. These textbooks are not digitized (i.e. interactive multimedia textbook contents on CDs or DVDs) at all…We don't even have audio files for sections that are related to pronunciation and phonetics (intonation, rhythm, word stress), we [teachers] ourselves articulate pronunciation as the only source of input, and my students have to pick up phones from my own pronunciation. These however are presented as individual sounds in isolation, and there is no opportunity provided for students to*

find these words in sentences or in a contextual/situational dialogue. (Isac, 148)

Apparently, some freelance authors and publishers had recently provided and marketed textbooks' accompanying CDs that some teachers had purchased in order to use in their classrooms:

Some of the CDs that I've got are not pronounced by a native speaker. But I know its pronunciation is correct. At least it is more correct than my pronunciation, and well this makes it more beneficial for the learner…but a very limited amount of class time is spent listening to these CDs. (Mona, 5; A)

Teachers' technology use was limited because they felt obligated by the overall nature of the curriculum and the exam system to teach unit by unit of the textbook over the span of the scholastic year:

As the students in this class are third graders, we have to stick to textbooks; so, this goal [technology integration] is less likely to be materialized. (Khatereh, 100; A)

Well, for us the main objective is teaching the textbook. We do not have anything else. We have no authority to add something or to bring a change to the established content…we are required to

> *teach the Ministry mandated textbook, no more. But we may use supplementary material (such as review materials, drill books, test books) that has the same base of the textbook to supplement its practices and bring a variation.* (Davood, 42-46; A)

Except for two schools that had introduced the Top Notch and Headway series as extra material to address the limitations of the textbooks, participants stated that their respective schools ruled that the teachers would not be allowed to recommend or use supplementary reading materials to students at all or other than what schools introduced.

Teachers were clear about the centrality of textbooks as the only instructional material they relied on. In fact, the over reliance on textbooks and the system of exams was considered to be as a source of contradiction between the demanded pedagogical technological innovation to attain the specific language goals/aspirations, and the contextual realities that teachers faced and perceived. Thus, when I asked participants whether technology could be used to overcome the issues that they raised about textbooks such as authenticity and attractiveness, their answers highlighted the issue of conformity to the curriculum:

> *The authentic language is just one aspect of the problem; the main issue is that at the end of the year it is only the textbook that determines the content of their examination.* (Ghadir, 346; D)

As a way to address the issue of inadequacy of textbooks, two schools (that included three participating teachers) had allocated extra time to teachers to teach other books such as Top Notch. Teachers in other schools perceived this as an advantageous situation that could lead to more effective use of ICTs:

> *I think in schools that their teaching materials are not merely state mandated textbooks, teachers can apply the internet easily in their classroom.* (Khatereh, 280; C)

But pedagogical practices in the classrooms that used Top Notch too were solely focused on textbooks (both mandatory and elective) with no or limited technological application different from other participants:

> *There is a written syllabus that defines what I have planned to do in the classroom. I should make it clear for the audience to get a feel of my class progress, for example based on the number of pages of the textbook, as the most important factor that indicates my teaching effectiveness. And Iranian language learners are adapted to a mentality that if we do not read sections of the*

textbook or we work in other ways, there has not been sufficient teaching. As such, I cannot say to my students, 'hey in this one hour I taught the entire unit through this video'. No, as a basic evidence of my teaching practices, they should see that pages of the textbook are flipped. In fact there are such concerns and this will be transferred to advisors. So we make efforts to address such concerns and to be committed to what we have presented [as a syllabus]. (Isac, 260; C)

In this line, they viewed technology as merely a presenting tool or a tool that could help teachers with delivering the content of the textbooks:

My technology use in class is limited to putting a CD in my laptop's CD drive, what you observed today, and it plays the audio file of the textbooks' lessons or pronounces the vocabulary list…I haven't had any other technology use, no I haven't had any. (Mona, 148; B)

Jafar shared what he called his 'ideals' and 'wishes' to create an ICT-based pedagogy that broadened the scope of EFL pedagogy beyond the textbooks and brought more fun into classroom. He said:

If [all the other contributing resources are] available, we can provide students with more attractive audio-visual pedagogy. If

our pedagogy becomes ICT-based we can bring a lot of fun and amusement for students in the class, other than just being restricted to textbook lessons, lessons, marks, marks; s/he can then get marks indirectly. (306; D)

This suggests that teacher's pedagogical beliefs and habits, and their concerns over conformity to curriculum standards directly impacted their understandings of ICT affordances and their software/hardware choice.

4.3.2.1 The impact of the curriculum on teachers' perceptions of ICT and its role in instruction

The centrality of textbooks in the curriculum was a significant impediment to technology use and shaped most participants' views to classroom time as a barrier. For example, because textbooks had arrived late, or there were school trips, bank holidays, etc, teachers felt they had missed some sessions and could waste no more time wusing ICT when it was not central to their teaching. And in fact, their patterns of ICT use in classroom were mainly based on this view of teaching as giving lectures and presentations centred on textbooks.

The textbook was the focus of teacher, when some teachers criticised lack of time, they meant they needed time in order to cover the mandatory textbooks, teaching with chalk/marker pen and board. If they

were provided with extra time out of their established class hours and if all the other conditions were met, they could have more use of ICT in their teaching:

> *If more time could be provided for that, let's say, specific hours were allocated for coming to the computer site, we could teach the text-book units, and complete our teaching practices in [regular] classrooms, then there were extra hours available for such [technological] activities…this could be beneficial to students and we would welcome it …(102) because this was extra, I would feel relieved that my book teaching could be completed first without any time constrains. And I could consider the extra time to do extra things, say, listening to stories, music, and then have question and answers, to improve their speaking. (Hosna, 104; B)*

Nevertheless, three teachers believed that their class time, i.e. two sessions 75 minutes each, did give enough time to teach the current textbook using technology.

4.3.3 Teachers' pedagogical beliefs and ICT use

Teachers' understanding of ICT affordances was an important factor in shaping their perceptions of the educational values of ICTs. But at the same time, teacher's pedagogical beliefs and habits, and their concerns

over conformity to curriculum standards, objectives, and outcome expectancy directly impacted on their understandings of ICT affordances and their software/hardware choice.

4.3.3.1 Perceived ICT limitations and affordances

Almost all participants practised a traditional transmission/lecture approach to instruction with a textbook driven curriculum that promoted 'drill and skill'. Their views of ICT affordances were mainly based around the skill/drill-based software especially CD packages and how these could fit with their teaching. In response to my question concerning their perceptions of the impact that ICT was having on their teaching learning practices, some teachers, who had just started to use ICT in teaching, were not sure about its educational value:

> *There are minimal pedagogical advantages; because this is the first year I am experiencing teaching with technology….I am not sure what the outcome may be at the end of the year.* (Mona, 3, 119; A, B)

With 'teaching with technology' she meant using audio CDs to teach pronunciation in class. Mona reported that her technology use was limited to this. She explained that she brought her own laptop computer from home to the classroom and used it only as an audio device for

listening and repeating practice for teaching pronunciation. But she believed that the new mediating tool (her laptop computer) had not provided an expansive transformation of the traditional and established teaching practices:

> *This is the old granny that now has been given a makeover! This is akin to the old tape player that our teachers used to bring to class. It now has taken the shape of a laptop; and tapes have changed to CDs. Its shape has got changed, but I use it in the same way that 20 years ago teachers did; I don't use it in any other ways other than this (101)…In my view they have the same functions; I can do this practice with an old tape player, does it make any difference in your view? (Mona, 103; B)*

She admired the device as beneficial for teaching and learning of pronunciation, but not for mixed ability and overcrowded classrooms (more on this later in this chapter).

Even for some teachers who had more experience of ICT use, there was uncertainty:

> *I don't think there would be any beneficial impact in learning with technology. [With or without technology] it is the same. All we can do with technology is that at most we add a bit of variation in*

our job. As I reflect on my experience in a class with just the chalk and board I can more easily control children. In the end, we are doing the same, we don't do any extra thing with technology. [With technology use] student's learning could even be less. It can just provide variation, that's all (Hosna, 36; A). ...In practical terms, what we are doing is basically the same practices; I mean the same practices we had in our traditional classrooms. No specific change has been made, only a little bit variation has been introduced. The students learning has not been enhanced, just the shape of it has changed. (Hosna, 131; B)

The uncertainty about the benefits of ICT, and coming out of their comfort zone was reflected in their comments as a challenge:

I prefer face-to-face communication in which interlocutors can hear each other's voice without any technology interface. I am convinced that in such an atmosphere I feel more comfort and I can provide more reassurance and comfort for my audience as well. As such, I prefer this technique; this approach has been the reason why I have had the minimum technology use over these years. (Isac, 22; A)

> *Most of the time, because the teaching is around grammar, and I have to explain the grammar… I think teaching grammar with technology is not suitable for pupils. They learn more when they see the teacher's body language than watch slides from a CD. For this reason I prefer to explain the grammar myself, because on the one hand I can have a better communication with my students… and on the other hand classroom management is easier.* (Mona, 5; A)

And for some who had relatively more ICT use, the discomfort with the new technology caused them want to get back to old habits:

> *I think the chalk and board was good as well, perhaps it'd be better if we could have both.* (Khatereh, 12; A)

As can be clearly seen, while using technology was extremely important to almost all teachers who participated in this study, it was difficult for them to move away from their habits and their understandings and attitudes of pedagogy that had been established through their everyday practices over years. They were reluctant to leave or change their teaching culture. In similar vein, there were more comments from participants that suggested that most viewed ICT as a valuable tool but in the service of their old practice. Khatereh said:

> *There is question bank software…that is very useful. If I want to do it on my own, I have to spend around 8-9 hours to design questions, not to mention typing. But with these CDs this time is reduced to half an hour.* (Khatereh, 24; A)

Jafar believed that using ICT if available and effectively used could enhance the teaching learning processes. He had access to video projection in his class, and believed that it could save a lot of time and effort by teachers:

> *By pressing an icon, we won't have a time waste* (6; A)… *For example, if I can create a PowerPoint presentation about sentence structures or vocabulary or such ahead of time, if I can spend some time into [creating] it, that will be a pre-made material for teaching that can facilitate teaching to some extent* (21; A).

But he was very enthusiastic about having an Interactive Whiteboard that was not at the time available to him. In response to my question about how he would be using an Interactive Whiteboard if he was provided with one in his classroom, he explained that using an Interactive Whiteboard could increase the effectiveness of lectures and:

> *...we could do writing, drawing and interacting with the textbook content projected on the board instead of writing with chalk or marker.* (Jafar, 3; A)

Khatereh, shared the same perspective to multimedia presentation:

> *It can save a lot of students' time. On the other hand, students can turn their eyes from the textbook and look around and see more attractive visuals, I think this can engage them more* (104; B)*... and the music that is played while they answer their exercises, all and all these have positive impacts and help decrease their stress and increase their confidence and learning can happen* (46-52; A).

Ghadir said that starting to use Interactive Whiteboard in his class, it had helped engage students, helped them learn, and made his own teaching easier:

> *It engages students and attracts students eyes as they have great visual impact; I am not sure, but it may be just due to the novelty factors* (257, 354; C, D).

Some participants who had used a video projector or Interactive Whiteboard believed that presentations with slideshows including a mix

of texts, images, colours, animations, sound, and videos could engage students:

> *It is great in all aspects and especially for visually depicting the concepts.* (Ghadir, 157, 167; B)
>
> *When there are visual aids students are more interested.* (Khatereh, 10; A)
>
> *As you know, learning happens through all senses in the learner. When use traditional methods of teaching, the teacher is delivering a monologue, and students catch the instruction only by hearing. But using videos, attractive images, and such techniques engage all the other senses and help students to keep the instruction in their long memory by linking them to various sources. (Davood, 314; C)*

As for more advantageous features of the multimedia presentation, they mentioned easy deletion of text (compared to wiping blackboards clean over and over again), restoring and retrieval of the instruction, and as such, in their view, it could help with the delivery of the material being taught.

Even some participants who shared negative comments about some ICT tools, made positive comments about specific technologies that they

were more comfortable with. For example, Mona viewed mobile communications as suitable for learning, and as such, had allocated a mobile number exclusively to her students:

> *When the exams time is approaching I make my students aware of this phone number and for example I advise them to read a specific amount of the book every day, and I say, 'whenever you feel stuck you can give me a ring and ask your questions, 24 hours a day you can call me, if my phone is switched on and rings then it means that I am available to help you… (Mona, 202; C)*

She said that she loved students and embraced such communications with students to provide them with emotional and practical support that encouraged them to further reading during the period of exams. Participants' further comments about perceived ICT affordances and limitations shed further light on the other dimensions of the issue. Teachers' concerns about losing their centralized control was but another factor that played a role in shaping their perceptions of technology impacts.

4.3.3.2 Classroom management

It seems that the incorporation of ICT in pedagogical practices required restructuring the curriculum and in turn, classroom management skills.

All participants based on the centralised curriculum were practising a teacher-directed instruction, in which teachers had the responsibility for delivering the knowledge and establishing discipline in classrooms of mostly around 30-38 energetic teens. In so doing, within the four walls of the small classrooms, the physical space was typically arranged with columns and rows facing the front of the room with the teacher's desk in the front. Teachers had been used to traditional methods of delivery of knowledge, and conducted teacher-cantered classes that required students sit quiet in rows and listen while the teacher instructed. The introduction of ICT into such a traditional system of education that required little or no student freedom had created tensions, and teachers found it difficult to manage classroom with ICT.

Figure 4-4 classrooms' physical space was typically arranged with columns and rows of students facing the front of the room with the teacher's desk in the front.

Some teachers believed that teaching assistants would be needed to manage the classroom and control students if they were to use ICT as part of a normal routine, especially in ICT rooms with the difficult conditions that were described above. As was mentioned earlier, as commented by teachers the large space, layout and furniture of ICT rooms reduced the control of teachers over the some parts of the class and affected students' behaviour in classroom and increased teachers'

concerns about classroom management. One of their concerns when using computers was their experience of uncontrollable noise and disorder created when students were listening to pronunciations or watching video files:

> *In my previous class I wanted to teach the long oo /u:/ sound; I said oo, food, soon, they started making noise ooooooooo… and, you know, control of the classroom is suddenly lost. (Jafar, 55; A)*

All teachers avoided letting students switch on computers they had in front of them, because they feared it would distract students and they might find themselves 'busy with computers' when teachers wanted them to listen.

Figure 4-5 Students were not allowed to turn on computers

In the same vein, a number of teachers perceived technology use in the classroom as distracting and disruptive. They believed that because these tools had been newly introduced into schools, children viewed ICT use in classroom as fun or entertainment. Teachers did not perceive these fun and interesting activities as constructive. They were concerned about their students having fun and taking an interest in technology mediated classrooms, as they feared that this might result in losing authority and power over students in their classrooms.

Although some teachers believed that when ICT was used class management was more difficult, others who used smart-boards or overhead projectors in their regular classrooms to deliver lectures believed that it did not have any impact on classroom management:

> *I don't think it has any impact on classroom control, neither positive nor negative; it depends on the teacher and the classroom in my view. (Ghadir, 255, 257; C)*

Still others perceived technology as helping teachers manage their classrooms better:

> *Well, now I can explain the difference in classroom management between the classroom that I had technology implementation and the other class that I did not use technology. In the latter, I could*

say, the teacher experiences more pressure to the effect that s/he has to spend all his/her energy to keep the kids quiet, yell at this, 'be quiet', shout at that, 'you aren't paying attention', This is because the lesson has no attraction to them, is not engaging. And this has an adverse impact on the education quality; this is the most important factor in my view. (Mostafa, 53; A)

Although most teachers seemed to place a high degree of value on ICT mediated teaching, their use of technology was limited in their classrooms. The process of schools' transition from conventional pedagogy to technology mediated pedagogy seems to be associated with a range of conflicts and tensions between students and teachers' subjective perceptions of usefulness, importance, preferences, interest, needs, and enjoyment about specific ICT mediated tasks and activities.

4.3.3.3 Perceived conflicts between teachers' and students' perceptions

Although I did not interview students, based on teachers' comments, tension became apparent between the teachers and students around their perceptions of technological values. For example Mona said:

These [social networks] in my view are not of any value. Eh, perhaps it is because of my age [42] that I do not enjoy it.

Facebook, for example, I thought about [inclusion of] it last year. I found myself not interested in it though. But, well, I see young people of age 17-18 are all interested in it. I tried it once in order to understand why students talk so much about it, but in my view it is waste of time, killing time, one does not learn anything from that. (Mona, 73; A)

From the participants' comments, it could be understood that they did not use technology to support student centred instruction. It does seem that students' interests tended to extend beyond what school convention and teachers offered to them, and students who were not consulted about their needs and interests seemed to be not engaged. Teachers who remained in the established teaching conventions questioned students' lack of engagement and motivation. Mona talked about an ICT mediated task that she thought was of learning value, but which students resisted:

Holland Toy Town is one of our text-book units…I brought a picture of that city to my class and told my students that I had seen many pictures of it on the web… I said, 'it is a real city, don't think that this is a fiction'…I emphasized a lot on browsing and viewing its pictures [at home] …But actually just one student in my class did it. Actually just one student ***in all my classes*** *did it! I don't know why students don't show interest? (Mona, 79; A)*

These conflicts seem to have their roots in teachers' individual characteristics, their pedagogic or educational culture, and again the centrality of textbooks (electives in this participant's case):

> *A number of films that have been identified for the educational purposes, I mean ones where students can predict what the whole story is about are not engaging. Students are much more captivated by video clips that the audience never really knows what will happen next. But such films have not been defined as a teaching-learning tool with close connections to the textbook's unit topics. So we have to limit ourselves to videos that accompany textbooks so that we can complete textbook based worksheets based on the video…well, a film or a video that is merely educational has a clear specific definition. Basically these video segments depict the whole theme of the unit… in these videos the information gap is very limited and in fact we work on recalling or lesson retrieval…and the student perceives that after watching the film, he has to answer some stereotyped questions and s/he is not supposed to discuss the aspects of the film that s/he was engaged in.* (Isac, 78-84; A)

What these teachers' comments suggest is that out of schools, students' use ICT mediated activities based on their own interests, but in schools,

activities are determined by teachers and based on educational goals. This also suggests that teachers perceive the students' technological behaviours and perhaps learning that occur outside school as non-educational and 'waste of time' (e.g., Mona, 73; A).

Isac said, based on his experience, that students were interested in watching videos that were not textbook-based, and would have liked to participate in ideally open-minded class discussions following that. He said that students preferred videos that raised some social issues or contextual matters such as recent political matters. He then distinguished between girls and boys, and said that boys' schools students were mesmerised by BBC documentaries. But in girls' schools, students preferred social dramas, and marriage and love was a very interesting subject to discuss. Interestingly, Mehri who was teaching in a female school shared the same viewpoint in her comment:

> *You know, content is very important to us. I am teaching a fixed predetermined content to students. But if one day I come and suggest that the class speaks about love or about marriage, 90 percent of students will engage in the discussion. I can see everybody actively take part in the discussion, and express her views. But students are bored with the textbook content and specially its grammar. And I have to teach the textbook that is*

tiring and boring for students especially those who have higher proficiency levels as a result of attending language institutes' courses.

Although teachers seemed to be aware of their students' interests and acknowledged that students were more likely to be willing to participate in discussions based on the topics of their own interests, they resisted or failed to adequately cater for their students' needs and interests. While conformity to textbooks and curriculum was the first mentioned reason, by scratching beneath the surface, it became evident that teachers were not sufficiently competent and confident to organise activities with ICT that required putting students' interests first. Teachers who had become used to a teacher-centred, textbook driven and essentially classical teaching methodology, found ICT a big challenge and incompatible with their traditional teaching habits. Isac, for example, said:

Students have been frequently requesting that I show them a video in class, but so far, I have refused to do so, because for the most part I feel I am not confident enough in teaching with film, and I think I have difficulty with handling the films. So, for fear of getting away from our educational goals I have not used them. (Isac, 54; A)

It can be seen in teachers' comments that lack of self-efficacy along with their beliefs, fears and concerns were preventing teachers from engaging students with new learning and teaching possibilities. Students and teachers were bored dated textbooks and curricula. Teacher-directed education that was quite different to their learning styles outside schools seemed to add to the students' frustration.

The limited technology use, and as one teacher called it 'for forms' sake' technology use, had not been able to transform the nature of the learning in schools towards more communication, collaboration and interaction. What almost all teachers were complaining about was that there was a demand on them to implement changes in their practices, but changing their mood from frustration and lack of confidence to confidence and engagement could not occur spontaneously. The situation seemed to need a new recognition of the social and interactive nature of learners' needs and a shift in the focus from questioning and blaming students for not being engaged to careful planning and incorporation of (research-based) effective strategies to increase their motivation and support their learning. However, teachers' comments indicated that they were often simply not trained and supported to deal with such matters and to teach in inclusive ways. Teachers' complaints and resentments about the continual professional development (CPD) courses support the claim that they were not sufficiently prepared for this

change. In the following section, teachers' perspectives on the knowledge base that they possessed in order to implement ICT in their teaching practices will be presented.

4.3.4 Participants' perceptions of their knowledge of ICT and its relationship with pedagogy

Except for one teacher who expressed less comfort with technology including satellite TV, computer and even mobile phones, all other participants reported that they had their own computers and Internet connectivity at home, and were confident using computers, browsing the Internet, using emails, and word processors for their personal daily use. However, they still found themselves to be ill prepared to use ICT devices at schools:

> *Perhaps my lack of familiarity with projectors and lack of time to set up projectors has led me to not using them. (Isac, 8; A)*

> *I did really think that if an I-board became available to us, very soon after I would have figured out how to apply it. But unfortunately due to some limitations including shortage of time and lack of access to trainers who can train us in short term, and as none of us were trained [to help others], we were not able to use it. (Davood, 144; B)*

Wherever we get stuck, we need our students [to help us fix technical issues]. This means students are ahead of us. Well, sometimes in some classes there are tech-savvy students, who assist us, but sometimes we are really stopped by our lack of knowledge. (Davood, 249; C)

We are not adequately trained to the effect that I myself get stuck at times. Children are much more competent than us. You know small children…my 10 year old daughter is much more competent than me in computer use. (Hosna, 72; A)

Khatereh had access to I-board in her class, and used a CD to show the students the content of the book and mock tests on the I-board screen, but I noticed when she needed to write something, she used regular white board and marker pen. I asked why, and she answered,

Because I didn't know how to use the electronic pen (250; C) *...I have received training, but still I have difficulty using the electronic pen to write while a CD content is being displayed on the screen* (252; C).

All participants said that they needed more training related to the operation and utilisation of technological tools in the classroom.

Our technology capabilities are very limited. We need to receive special training. (Mehri, 209; C)

I think I have weaknesses in all aspects of teaching, I mean I do really feel that, well, these technological resources that are available to us can spontaneously enhance the work to some extent, but training can speed up this movement. (Davood, 394; D)

I think the first critical step they could have taken is teacher training, to provide teachers with practical strategies to incorporate technology in classroom. If as a teacher I was completely familiar with computer and had enough skills to implement it, well it could be beneficial with my teaching. (Hosna, 135; B)

The common denominator in all the participants was their lack of necessary technological pedagogical knowledge to help them provide a meaningful pedagogical use of technology. Teachers' comments made it clear that they were not properly and continuously trained to exploit the possibilities that the technology has for pedagogy.

I think there might be new methods to improve teaching vocabulary that I am not aware of. I do really wish I knew. I mean

> *I wish there was such a training course by the ministry that I could attend, it would then be great.* (Hosna, 112; B)

ICT had been introduced into schools with minimal training. Only one teacher amongst nine participants commented that in CPD courses, she had received training on how to control classes when implementing technology. To embrace the change, and to no longer view ICT as a disturbance, they needed to reconceptualise their skills:

> *We the teachers have not received adequate training on how to implement these [technological] devices; and we have not been given enough information on their importance.* (Mona, 3; A)

Mona commented that ICT was not suitable to support the teaching of grammar. Part of the issue according to her was limited access to technology. She said that she was not able to find a CD for teaching grammar. In response to my question, if she was able to create material on her own or to use technology to teach grammar in any other ways, she said, '*no, I don't have the necessary skill'* (250; C).

One of the main issues that appeared in teachers' comments was insufficient CPD. In the next section, teachers' comments about the nature and the effectiveness of this mechanism will be presented.

4.3.5 Perceived effectiveness of continual professional development (CPD) courses

In the context of Iran, the Ministry of Education carries the responsibility for providing training, policy and financial support for teachers' initial and Continual Professional Development (CPD). Some CPD training courses were held by the Ministry aimed at enhancing teachers' technological knowledge (TK) in the form of ICDL courses. But it was evident that some schools had also initiated providing teacher training to meet their own contextual needs. CPD courses organised by schools were run within schools, but those organised by the ministry were usually held out of school. According to the teachers, training was free of charge and encouraged by the providers. From the analysis of the data training that teachers received were based on two main themes: 1. technology development courses, and 2. pedagogy development courses.

4.3.5.1 Technology development courses

According to the teachers, most of the ICT related trainings that they had been offered were limited to technological literacy i.e. how to technically use the software and hardware:

> *This training course that our principal was talking about is run by the school. As our school has an internet connection, computer*

site and a website, this year we are going to put students' scores on the website. And as I told you earlier, most colleagues do not know even how to turn the computers on, and the principal's speech addressed those colleagues who need to put scores on the website but they don' know how. I remember that two to three weeks ago, during the few minutes break, they went down to the computer site, and were trained how to enter username and password in order to login to the website. (Mona, 39; A)

However, not all participants had the opportunity to receive trainings. Some of them acquired technical skills or techniques of implementation of ICT in teaching through experience and self-discovery.

All I know is what I have learned on my own, and I have not received any training. As such, with my current knowledge, I think it could not help. Nevertheless, if they provide adequate training courses that can provide teachers with more interesting and newer strategies and techniques, we would be more motivated and would make much more use of ICTs. (Hosna, 135; B)

Some participants commented that they had figured out how to work with Interactive Whiteboards on their own as novices, by playing with

the device. But those respondents who attended these courses widely reported that since receiving such training, they had become more confident and competent with ICT as a whole, and found it to be a facilitating factor affecting their ICT use. However they said that it was not adequate, due to being patchy and random:

> *Special IT courses are not usually available. For example, last year, this school offered a course to train Builder software- the presentation you observed today was an example of teaching with Builder. But after a few sessions, the course was aborted midway, and was not continued anymore. This was because colleagues did not attend and it was not economic for school to pay for the remaining couple of teachers. As a result, the course was no longer running. They usually run such courses, but after 4-5 sessions they give up.* (Mehri, 209; C)

Some schools run a single session of training, and this was actually opportunistic. Most participants were teaching in one or more schools in addition to the participating schools in which they were teaching, and some of them received training in those schools but not in the participating schools. Mostafa received a one-time only I-board related training in another high school, but he reported that this was not enough to enable him to use the I-board:

> *Well, a single session of training was not enough at all to prepare us to use all its applications. We now use the I-board just as a white board that I think is the basic use of this appliance. I don't say they did not inform us how to use it, they did; but in a single session with fast-paced presenting a huge amount of material one cannot get as much from that. One cannot keep in mind the large volume of the information that is presented in a single session about profound applications of the tool.* (Mostafa, 43; A)

Failing to provide hands-on practical experiences and follow-up teacher developments, was mentioned by most teachers as a shortcoming of these training courses. However, they perceived such in-school courses that were initiated by school managers as more beneficial and relevant to their individual and contextual needs than the courses provided by the ministry. In contrast, technology training courses offered by the Ministry/Department of Education provided the same training to all teachers from various schools, and with diverse needs and conditions. These courses were perceived by participants –who attended- as inadequate and irrelevant at times.

On the one hand there were incompetent teachers who had not received any training to enable them to use certain technologies that were available to them at their schools, on the other hand, in a series of

workshops and training courses offered by the ministry, some participants received training to use certain hardware or software that were not available to them or were banned by schools. Here are some examples:

> *Interactive Whiteboard per se has not yet been covered in CPD courses offered by the ministry of education, and even so far there has not been IT courses that can provide information on how to use the internet for teaching.* (Mostafa, 124; B)

> *Last year I attended a seminar as the representative of this school's teachers. There, I questioned the trainer, who was delivering a lecture and recommended the use of these [technological] tools, whether these tools need to be available for us to use them or we should use them even if they are not available. The session was disrupted and the trainer complained about why I had raised such an issue. He thought we should have sat silently in our chairs and accepted whatever they said, and sign the registry at the end of the session and a record of 2 hours attendance in in-service teacher education be kept for us… without a second thought to what conditions we have and whether or not we have access to these technologies to implement in our lessons.* (Mostafa, 132; B)

I teach in another school as well. Last year in that school we were provided with 2-3 sessions training in how to use smart boards and light pen. They offered this course to enable us to use smart board in our teaching practices. But so far no one has put it into practice. In our classes there are no smart boards to use. They just offer some theoretical training and expect teachers to implement them in their teaching. Well, when we have no access to these tools, it is not really possible to use them. (Hosna, 164; B)

Last year a series of training sessions were offered by the department of education on how to use mobile phones in teaching and learning English. I attended this course…the material could be provided through software on computer and we would transfer it to a mobile phone. Then we could send it via Bluetooth to students' mobile phones; but students are not allowed to bring their phones to school, so, what these trainings are good for? (Mehri. 124,126; B)

Findings suggest that these courses that aimed at teaching basic technological knowledge did not relate to any pedagogical knowledge of ICT integration. There was also a tenuous link with the subject matter:

> *Currently there is no such CPD course or workshops running whether online or physical to attend. If any, they are general, I mean there are in fact sessions for all education staff and are not that much related to pedagogy.* (Davood, 148; B)

Participants' comments made it clear that there were no courses to develop or improve teachers understanding of effective integration of ICTs into pedagogical practices within specific subject matter.

4.3.5.2 Pedagogy development courses

According to the participants, the Ministry of Education carries responsibility for providing and organising CPD programmes aimed at developing teachers' pedagogical knowledge (PK) and content knowledge (CK). From the participants' comments, it may be seen that they were dissatisfied with the courses and found these courses irrelevant and unable to meet their needs. They perceived the content, level and quality of delivery of training programmes inadequate, and commented that they did not learn much in the course. Ghadir once attended a CPD course aimed at helping teachers develop their foreign language skills (CK). He said that what they were offered in this course was based on a book entitled 'Let's Go' that was, in his view, suitable for children than a teacher who held a Master's degree in English Language Translation.

He explained that this led to him being absent from CPD courses ever since. Four more teachers did not follow CPD courses, and believed that their absence did not result in missing anything:

> *I should say I have learned nothing from the CPD courses that so far I have attended…I can say even 150 hours pre-service courses [that I attended] were not of any value. I mean I did not learn anything…This was because, for example they delivered teaching materials that were suitable for preparing primary level teachers not me who was to teach middle schools or high schools…I'm not sure, but a primary teacher should be asked if s/he has been able to apply them in her/his class.* (Mona, 43; A)

Mona believed that in CPD courses, teachers' professional and contextual needs and realities of their classes were not considered:

> *In my view, tools, resources, time, that are available to a teacher, especially given the high level of heterogeneity in language classes, none of these are taken into account in CPD courses. They just advise teachers to teach in a particular way. … They tell us, 'in your class teach well, make best of your time, don't waste even two minutes of your class time,' but how I can apply this*

advice with the specific resources that I have access to? (Mona, 53; A)

Attending CPD courses was not compulsory for teachers. The Ministry of Education conducted voluntary certifying in-service training, and the individual teacher was responsible for being proactive in looking for opportunities, and ready to attend courses to improve his or her own professional expertise. Participants would receive a CPD certificate of attendance on completion of courses, workshops or seminars; and based on hours of trainings received teachers would attain credits; these would later be considered in general evaluation of teachers' qualifications:

In our annual evaluation form there is a clause relating to our CPD attendance. (Khatereh, 132; B)

I asked if this was enough to encourage them to attend all courses. The answer was:

No, not that much. (Khatereh, 134; B)

Some teachers said in the circumstances their only impetus to attend training courses was to receive a certificate of attendance. They said that they needed the credits they could earn by attending courses or using

ICTs in teaching, because of worries over job security. Others believed that '*attending these courses gives no privilege* (Mehri, 237; C).

In addition to dissatisfaction with the quality of the courses, they were concerned about several other issues that led them to ignore the required credits. Too many work and family commitments were mentioned by some teachers as major inhibitive factors that did not allow them to attend courses. But their concern about workload and time arose from the very long hours that teachers like Isac were working:

> *You know, teaching is not a lucrative (high-paying) job in Iran; as such I have to teach 12 hours a day…to afford my living costs I have to increase my number of classes. For example yesterday I got up at 5:30 am and when I walked out of my last class, it was 7:30 pm, and I had to go from one class to another except for an hour that I had for lunch. Today and tomorrow alike all my day is packed with classes.* (Isac, 276; D)

And some female participants were concerned about their loads of parenthood, household and other family commitments:

> *[Courses] have not been enough, but even if they offered more training courses, I would not be able to attend because of my*

family responsibilities… there are some courses…but as a mother of a toddler I cannot attend. (Khatereh, 126 &138; B)

Well, we all have our own personal and family obligations... Currently, a tablet training session has been scheduled for next week and we are required to attend. Our working hours are usually from early morning till 3 pm. And next week, on the day of the training, we will have to continue to stay for longer. You can understand what a pressure it imposes on us. From now I am concerned about my daughter; I have no idea who can take her home from school while I will be at school. ... All of these are my concerns because it is held out of my working hours. But if these [CPD] courses were scheduled within the school hours, we would embrace it, and everybody would attend because it was our duty. (Mehri, 213; C)

Participants reported that principals did not allow them to attend certain CPD courses organized by the Department of Education that conflicted with their teaching time. In the face of this, some participants suggested that CPD planners should take into consideration teachers' workloads in the scheduling of the courses. In this regard, some teachers suggested that courses be offered during the summer vacations when schools were

closed and teachers had free time; still others suggested that their attendance in training courses be considered as their paid working hours:

> *If for example they consider one day of paid work for CPD, …and compel us to attend, I will definitely attend and fulfill my job because it is part of my official working hours. But I can't manage if it demands my own out-of-work hours.* (Mehri, 213; C)

Financial support was highlighted as a factor that could encourage teachers to attend CPD courses. Some teachers mentioned that if teachers could receive pecuniary awards for their participation or if their attendance in courses would be considered for a growth in salary scale, this would be a great impetus.

Overall based on the many reasons that participants offered why in-service teacher training programme did not contribute to their uptake, it could be said that in practice most teachers had chosen not to attend CPD courses, and as a result, there were teachers who had received no, or limited training. They complained that they were often neglected or given less prominence in CPD decision-making. They believed that they had not been given the opportunity to say what training they needed to be offered. By the same token, it could be concluded that these in-service training especially those offered by the government whether focused on

ICT literacy, content or pedagogical knowledge were divorced from the realities of individual teachers' classrooms.

4.3.6 Other factors affecting teachers' ICT uptake

4.3.6.1 Institutional supports

Among the contextual factors, another key point mentioned by the participants was that organisational, and especially school support, was an important influential factor for both teacher's participation in CPD courses and their technology uptake. Teachers reported that schools' motivation, capacities and priorities were essential factors that were highly dependent on the administration team:

> *First of all, teachers, and even prior to teachers, managers should believe in this activity [of technology integration]. Belief is very important. It may happen that a principal does not believe in an activity, and does not respond with an explicit 'no' to that, but hamper it in many ways.* (Jafar, 264; C)

Teachers in some schools, especially state-schools mentioned funding issues as one of the barriers of availability of ICT and training. They explained that it was very expensive to keep schools' technological tools updated and provide maintenance and technical support, especially

when schools lacked the money to the essential costs such as their electricity bills. Managers' capacity to get funds or receive facilities, tools and services from various sources like government, charities and trust was mentioned as an important factor. Participants highlighted the role of schools' managers, their perceptions and policies that they put into place as important in the amount and level of ICT access, support and training that were made available to teachers:

> *I think if managers believe that 'where there's a will there's a way' they can meet the schools' needs. But most managers are usually satisfied with whatever is available to them. I haven't seen such a manager who is persistent to equip his/her school.*
> (Davood, 266; C)

Teachers reported that in some schools where managers perceived a need to develop their teaching practitioners' technological skills, in-school training was initiated. Some managers encouraged or required their teachers to use ICT in their teaching practices.

4.3.6.2 The system of evaluation, motivation and rewards

In some schools using ICT for pedagogical purposes was considered in the evaluation of teachers' performance. This was identified as contributing to ICT uptake; however, some teachers complained that this

did not provide a noticeable incentive, and they believed that more should be done to provide motivation or incentives for teachers to take ICT use more seriously. Most suggested that they needed a mandatory policy and with 'punishment' and 'rewards' as appropriate incentives for their personal development:

> *I have not seen any obligation, but there is encouragement…I can see their willingness for that, but I see no seriousness for following this. I mean it is still not mandatory for us to use it. If there was compliance, at least we could have an external driving force to move us towards using these tools.* (Isac, 242; C)

> *Because this is a smart school, there should be some ICT use* (Hosna, 2)… *I was obliged to apply it; I mean I had to bring my students to computer site and incorporate some technological tools, so I had to pursue trainings*. (Hosna, 54; A)

> *There are pressures on us to use these resources (Mehri, 24)… There is not that obligation, but they expect us use it. (Mehri, 40; A)*

The amount of reward granted for ICT uptake, as expressed by teachers, appeared to be disproportionate to the workload that it imposed on them. When compared with other activities, the small and random rewards and

credits that had been considered for ICT uptake for many teachers were not worth the trouble:

> *You know, currently teachers' performances are evaluated. There are sheets in which for elements such as attendance at CPD courses, points have been considered or they receive rewards. But ICT uptake has not seriously been taken into consideration in any of those performance sheets that come from the ministry. For using these technological tools one point has been considered, while for less important things up to ten points might be granted. For ICT application over the entire scholastic year, only one point has been considered, while for attendance in a two-hour session or meeting in the department two points are granted. Two points for a meeting that may not really have any benefit, or even awards that every year, on Teachers' Day, all teachers equally receive from the manager, has two points, but for ICT use only one point; actually that one point is granted equally to all teachers and it makes no difference who uses or not. And I think, if for example, they make it mandatory to attend CPD courses for all teachers, and non-users be put into question for not incorporating ICT, well, all teachers including me will prepare ourselves for that. Or they can take rewarding acts. Actually, if teachers who have*

accepted challenges and are working hard be rewarded and appreciated this can be influential. (Davood, 402; D)

One teacher said that these credits were actually more used as a means to punish than to reward teachers, to the effect that, for example, when they wanted to lose a teacher, they used the lack or shortage of credits as an excuse for poor performance. More credits did not provide teachers with any privileges. As such, out of job security concerns, teachers would opt for the safer path (i.e. spend time over the activities that can bring more credits). Another teacher who was once in charge of teacher training said that based on his experience some teachers participated in CPD course only to receive credits, without having any interest in learning or in the course. It was, however, not hard to imagine that in a system with many inhibitory elements such as teachers' lack of expertise, uninteresting and irrelevant CPD, the out-dated content of the curriculum, exams' standard and inadequate ICT and technical support, that work as change barriers, and above all, given the reward and punishment system of teachers' performance evaluation, teachers need to be praised for the single small acts they do in this difficult process of change:

Every one of us may show a kind of phobia to change…we may feel stressed…there should be enough motivating factors to accept

it, otherwise we have an idiom that says one should not make a rod for one's own back. (Jafar, 168; B)

Teachers' comments do not seem to suggest that credits can lead to higher interest in ICT uptake or increased engagement in participation in in-service training. Instead, what can be understood from their comments is a call for school managers and higher policy makers to facilitate the process of change for teachers by providing extrinsic motivation. And if they are expected to implement a change, and work as change agents, what is needed is clearly defined responsibilities and the establishment of an atmosphere that provided them with care and support with developing a new role.

Other qualities such as classroom size and student abilities emerged as subthemes related to further factors affecting teachers' ICT uptake.

4.3.6.3 Student related factors

4.3.6.3.1 Over-crowded classes with mixed ability students

Another issue that was emphasized in the responses of most teachers was that with mixed ability students placed in the same classroom it would be difficult or even impossible to incorporate ICT:

If students could be of the same level of proficiency, it would be excellent. But the class is a mixture of proficiency levels, one

student has not attended any language institute and shows no interest in EFL, while another is brilliant and holds a TOEFL degree. Because the classroom is multilevel it is so difficult, if they were more homogenous it might be possible [to integrate technology]. (Hosna, 106; B)

Mona valued the potential benefits of the vocabulary/pronunciation CD packages in improving students' learning experience and outcomes with teaching pronunciation but not for all students. She raised the issue of mixed ability classes, and stressed that students who had higher language abilities and were high-achieving seemed to benefit more from teaching with ICTs than the students with lower abilities. She said that some students used to attend language courses offered by private language institutes, which made them more advanced in classroom practices. Given the fact that the curriculum was textbook driven, she found it difficult to differentiate materials for students; as such, she had to consider the lower ability students as the base of the class and spend the class time teaching and working with the lowest common denominator. In so doing, at times she allowed the higher ability or advanced students to leave the classroom when it got boring for them. Mona said,

Some of my high school third graders still need to be taught from a new aspects of language that they have been taught in middle

school…well, what did I have to do as a teacher? What would you do you if you were me? I had to ignore my higher-achieving students; it was really a big issue. Why? Because I knew that marks are more important to us. At the end of the year they expect my students to pass the exams with good marks, so, I put my higher achieving students aside or let them read something of their own choice or go out of the class, to computer site if they like, in order for me to be able to work with under achieving students. (Mona, 23; A)

Hosna (32) used the term mixed-ability to refer to student' computer literacy. She faced the challenge of classrooms that contained students with adequate computer literacy and students who were not familiar with computers at all and who would need much time and effort for preparation:

The levels of students, hmm these gals some of them even do not have computers at home. They do not know what computer is at all. They don't really know. You know this is a district in which students are not from prosperous families. They are not well situated financially. Well, it is strange to them before they get familiarized with computer and to see what they can do with it. Well, because they are not of the same computer competency

level, it is difficult to familiarize all students with educational technologies. (Hosna, 32; A)

4.3.6.3.2 Students' inequality of access to ICTs

Teachers raised the issue of the difficulty of some students' access to computer, internet, or other ICT tools such as satellite or mobile phones at home. However, they commented that some students used lack of access to the necessary ICT tools such as computers or connectivity, or computer failure as an excuse for not doing homework. Participants linked the accessibility issue to the socio-economic background of students. Some of the participating smart schools were situated in areas with relatively poor socio-economic conditions. Teachers reported that students from families with lower socio-economic status received less financial, social, and educational support and inadequate or lack of access to technology at home. In addition, families, who had social or religious concerns over their children's media connectivity, prohibited their children gaining access to internet. Such factors contributed to the inequity. As a result, whether due to lack of availability or due to parental worries these students were unable to do or submit homework that required connectivity.

4.3.7 Sociocultural factors, regulations and culture of schools

The last tension identified, but no less important was the unease and distrust that existed in schools and in the formal education system about engaging students with ICT. Schools restrictive regulations and standards that in turn were part of a broader cultural movement aimed at strengthening the Islamic identity within the modern Iranian nation. Participants' comments highlighted the distinctive socio-cultural and religious issues and political sensitivities of the Iranian context, and worries over the influence of the western culture that surrounds the media and the English language pedagogy. Teachers had to work in line with school standards, and some teachers believed that these had provided an environment that offered a disincentive on ICT use.

4.3.7.1 Fear of student's unauthorized use at home and at schools

As part of their ICT policies, schools mandated that students refrain from bringing technological tools including mobile phones, tablets and laptops into schools. Some participants stated that at times, due to lack of or difficulty of access to computers in classroom, they might ask a student if s/he was willing to bring her/his own laptop to class to be used by teacher for teaching practices. But because schools did not allow

students to bring in their own tech, teachers had to convince the school's senior management to ignore the rule in such cases. Some teachers commented about major differences or conflicts between schools' policies and societal norms. They believed that the contradictions between the classroom culture and the society and family norms influenced their ICT mediated teaching practices negatively. They suggested that these needed to be balanced. The government had made continuous attempts to create a protective wall around the Internet used by Iranians inside the country. And in this regard, many blogs and websites including social networks had been blocked or filtered:

> *When we use Internet at school, which is really very limited, there are websites blocked by the government and as such inaccessible to us. Really not all such forbidden sites are of an inappropriate nature. Some websites that are blocked actually offer good content; in order to access those websites we need anti filter/proxy/VPNs and regulations do not allow us use such software at school. For these reasons our access is limited to some extent.* (Davood, 92; A)

> *You know, I don't seek out any specific inappropriate material online; I just want some content related to teaching English as a*

foreign language but a wide range of related websites is filtered. (Khatereh, 274; D)

Moreover, schools had prohibitive policies in practice that were actually strongly influenced by sociocultural, political, and religious norms, rather than the standard safety issues associated with technological devices.

As they're not willing to leave students alone with internet, they don't provide internet in classrooms. I think if we can guide and supervise students in classrooms, we should trust them, because, you know, outside schools everywhere they have access to Internet. But specifically in this school they don't want this. (Khatereh, 274; D)

The distrust actually led teachers and schools to use prohibitive strategies to limit students' access to Internet. Most teachers showed a reluctance to give their students access to technological devices especially the internet during class sessions. They were concerned about possible distractions and misuse, including access to contents or material online that were considered inappropriate. For example, in response to my question of whether or not they had access to Internet in their computer site, Hosna said,

Yes, yes, we have internet connection, but there are some restrictions, you know, if students can have access to its password, well, they will use it, and, uh they will use it inappropriately that is not accepted.

Such issues led most teachers to download some content for use in multimedia presentations or distribute the printed copies in the class to supplement the instructional curriculum and actually even such uses of internet resources were very limited if any. In fact, where internet connectivity was available, in addition to teachers' lack of expertise in using internet for teaching, a barrier was the individual teachers' personal dispositions and ideological beliefs; but the major barrier was their perceptions and fears about schools policies and norms. Jafar said, '*on the one hand cultural and traditional norms limit us, on the other hand children who use real life chats may be brain washed'*. Some teachers believed that communication technologies had already brought about cultural changes and blamed that for especially young peoples' attractions to foreign fashion, brands, music, movies and other aspects of entertainments sus as drug, smoking, etc:

One of my students asked me to listen to music on his mobile, Rock'n'Roll, it was full of slang and taboo words, overwhelmed with Nihilism: 'blue dreams in black sky'. Such stuff has filled

> *their brains… well, where is the needs analysis? Where is the application analysis? Where these children are provided with an appropriate situation to hear or practice the language?* (Jafar, 258; C)

Most teachers held the view that students should not be kept away from online contexts or media but that they should be empowered against the ideological threats through training and guiding them and thus getting them prepared for their online presence.

Concerns about connectivity were not limited to schools, as parents were also worried about students' connectivity at home. Some teachers reported that at times some parents came up to schools and questioned teachers furiously when they learned about the online homework that teachers assigned students to do. Also, satellite was mentioned as a controversial device that not only parents were most likely worried about but some teachers themselves both as parents and teachers were conservative and cautious about, especially given the fact that having satellite was officially banned in Iran due to concerns about exposure to inappropriate aspects of foreign culture or political propaganda:

> *I have not so far advised students to watch a satellite programme…I myself don't have access to satellite TV, my son is a teenager and as you know considering the susceptibility and*

vulnerability to negative influences at his age, we thought it might have disadvantages for him; so, we have not provided satellite at home. (Khatereh, 290-92; D)

Well, the first issue that could be mentioned is that 50% of families might have access to satellite TV at home and 50% not. But, well, if we know that a specific channel or programme is appropriate and can offer useful information, we advise students to watch that; but it largely depends on families to allow or provide their children with access to it. Because you know there are many families that prohibit their children's access to internet or satellite TV for fear of inappropriate use. (Mostafa, 212; C*)*

Some regulations have been made explicit through published policies that had been mandated from above. And some seemed to be unwritten rules and policies that teachers were expected to be aware of.

Definitely to the extent that our state TV shows, we are allowed to show films. In our state TV usually, well, most movies are foreign, and characters have no Islamic attire. As long as they are in agreement with acceptable social norms, to be honest, as long as they don't show sexual behaviour and such sensitive topics, they are fine even without Islamic attire. (Davood, 98; A)

However different schools applied regulations to differently and as such at some schools, there was less control than others. As most teachers had limited ICT use in classroom and their ICT use was limited to display the textbook based CD/DVDs, it could be said that they still did not open up the classroom to the digital or online world and as such they did not raise official concerns over the appropriate or safe technology use.

Some participants talked about the difficulties or consequences of displaying video clips or movies in classroom. For example, Mehri shared her own experience that in order to extend learning activities in classroom, she occasionally used movies that she downloaded from the web or movies that were available in market in her classroom. She explained that one time her video display attracted the immediate disapproval from the school principal while accompanying investigators who had come from the Department of Education. The principal's criticism, as Mehri explained, was that the video she displayed contained images of female cartoon characters whose dressing did not meet the Islamic standards of modesty. She said that she was aware of the socio-cultural norms and school's regulation, and from her understanding the cartoon that she had chosen was fine. But the issue, as Mehri pointed out, was that modesty standards especially in female schools were much stricter than the socio-cultural norms of the modesty in the mainstream Iranian society. She said, '*this might have caused a serious e-safety*

allegation been made against me as a teacher'. To mitigate this risk she had to be very selective and spend a lot of time for selection and modification of the videos before their display in class. An implication of this was that she was reluctant to become involved in any more such activities. Similar views were shared by some other participants.

Most participants commented that English subject itself and the culture that surrounds it provided challenges for teachers who taught in schools. They said that the Iranian English textbooks had lessons adopted with the Iranian cultural and religious content. Imported English packages such as Top Notch included contents that reflect aspects of the western culture that were not compatible with Iranian Islamic culture. From images that exposed parts of bodies that had been blurred or painted to the western concepts and practices like consumption of alcohol or establishing relationships had provided difficulties for teachers:

> *Picture of a woman who is singing is followed by some activities that require learners to look at the picture and answer the questions. But the picture has been totally blurred or painted, how students can answer its related questions?* (Mehri, 171; B)

> *I should be quite aware of the identified social parameters, and be careful not to make any mistake when teaching to young learners.*

> *Any mistake may have adverse impacts on their mentality that is getting shaped at their age. For example the term 'boyfriend' or 'girlfriend' that we come across in the original and authentic English books is completely a taboo in our country not just offensive or embarrassing. Nonetheless, this is an accepted norm in the western culture, and not only is this not taken as a taboo, but it brings a social status; it is something established in their culture…So I have to get distant from such barriers in order to have unproblematic teaching.* (Isac, 124-126; B)

Such sensitive topics that were available in the imported English textbooks could be simply passed over as Ghadir used to do, or briefly introduced with many considerations to avoid tensions in the classroom as Isac did. But returning to the discussion of ICT use, the ideological difficulties and issues related to finding, funding, careful selection, and censorship of the western dominated English language media resources and the Internet could be added to all the barriers that were mentioned in previous sections.

Focused on research questions, I structured the reporting of results beginning with a practical understanding of teaching with technology of a group of practicing EFL teachers in the context of Iranian high schools. Then, focused on factors perceived by teachers as having been

influential in their ICT use, presented and discussed the characteristics of these elements and their relationships in order to develop a better understanding of the conditions required for effective integration of ICT into EFL pedagogy. In so doing, participants were also given the opportunity to share their ideas about what was required for a successful integration of ICT in their language teaching. The next section concludes this chapter with a brief outline of teachers' actual needs that can be considered when developing a more supportive system for the integration of ICT into pedagogy.

4. 4. Perceived necessary conditions for the integration of ICT

As mentioned earlier, teachers who were interviewed were not willing to 'integrate' ICT (except for random uses of slides once upon a time) into their teaching under current conditions. Some participants commented that for the introduction of ICT to be successful a refining in the system was essential, while others believed that a fundamental change in the foreign language education was required both from top-down and from inside schools. In this section, the supporting conditions that were required by teachers to fully and effectively integrate ICTs are outlined.

Rich access to technology: The emphasis in teachers' responses was on improving the accessibility, quantity and quality of schools'

technological devices and connectivity. In this regard, they believed that all classrooms needed to be equipped with multifunctional ICT resources such as Interactive Whiteboards and projectors along with a desktop computer or a laptop as the minimum requirement. The number of computers in ICT rooms needed to be increased so that they could meet the needs of all students in a class. And the assistive hardware or software that could support the pedagogical needed to be available to teachers free of charge. Teachers expressed the need to receive timely and efficient setup-services, and technical support and advice. Students needed access to computers with internet connectivity.

Providing teachers with quality and enhanced CPD training: Teachers acknowledged that they lacked sufficient knowledge to choose and implement technologies to enhance their pedagogy. Their comments highlighted the need for discipline specific CPD programmes that could equip them with knowledge of the potential and constraint of technology for their subject matter and how this could be exploited to develop more effective pedagogies that in turn could enhance student' learning. However, in order for teachers to be able to attend the courses and make most of their training, classes needed to fit into their work schedule and be relevant to their contextual needs and conditions.

Goals need to be clearly defined for English pedagogy at schools. Teachers commented that they were doing what the current

curriculum had told them that they were supposed to do. They felt that the current objectives were not clear, and their responsibility was not clearly defined. They believed that transformation would not occur and they would not be able to implement technology if current objectives and the curriculum were not changed. What was needed, as they commented, was to redefine objectives and reconstruct conceptions of the EFL pedagogical activities.

Curriculum and textbooks change: teachers believed that technology could not fit the current curriculum. What was needed, according to teachers, was to provide curricular framework that demanded meaningful tasks that could engage students and required their interaction and collaboration. The current curriculum and curricular objectives, in their view, fell short of generating motivation for improving pedagogy even through basic uses of ICT.

Schools supporting and encouraging teachers to use ICTs: Most teachers believed that technology if comfortably accessible, could increase the speed, motivate students and lessen teaching burden. But they felt inhibited by the situations in which they were expected to implement technology. They said they would embrace technology if in addition to other requirements, they had safe and supportive environments that took into account their contextual needs and situations. To provide a supportive environment, they believed that

school leaders needed to be aware of the values of technology, be actively involved in providing technological needs, and established the atmosphere that allowed and promoted risk taking and experiment and collegiality, and support teachers' on-going growth. They needed to engage teachers by performance-based payment or merit pay that showed their efforts were valued. Improving parents' involvement and cooperation that required greater openness, understanding and trust. Another issue that some teachers believed that needed to be addressed was lifting unnecessary restrictions related to communication technologies. Finally included in the list was increasing classroom hours. Teachers believed that creation of such a supporting educational environment could lead to better learning and change.

This chapter reported the major findings from the current research that explored perspectives of nine Iranian EFL teachers on the integration of ICT tools into their teaching practices. The next chapter will discuss findings in light of the literature on the topic and in relation to the theory. The next chapter will also explore the theoretical and practical implications of findings, and will conclude with suggestions for further research and the limitations of the study.

CHAPTER 5. Discussions and Implications

5. 1. Introduction

The previous chapter presented findings with regard to the various themes and subthemes that were developed through the analysis of the data. From amongst the three overarching themes that were developed from the thematic analysis of the data, the quantity and quality of the pedagogical applications of digital technologies by teachers were regarded as central, and this constituted a base for the presentations and discussions of teachers' pedagogical perspectives. All the other important factors or challenges were identified as inter-related themes and sub-themes in respect to the practical use of ICT. One key issue to emerge was that the teachers' perceptions of ICT for their own classroom and their actual technology use was situated, and highly influenced by a range of factors in their practice context. In this chapter, I will combine the findings, literature and the theory into a discussion of the use of ICT in EFL pedagogy in schools in Iran.

The chapter will be organised as follows. After this introduction, the next section will offer a brief summary of the purpose of the study and the key findings in relation to activity theory. Then, the research

questions will be restated to provide a detailed critical discussion of findings in answer to the research questions. Referring back to the discussions presented in chapter 2, and the more recent literature ICT mediated foreign language pedagogy, TPAK and Fullan's perspectives on change will be considered as conceptual frameworks for discussion of the instructional practices of participants and the influencing factors.

This will be followed by a discussion of how the findings of this study contribute to developments in research in the field. Additionally implications for pedagogies, policies and practices will be discussed. In so doing, informed by evidence from the current study, the literature and the policy documents, the barriers to effective ICT mediated pedagogy will be pointed out and recommendations will be made for possible change in practice and policy to make EFL education in Iranian schools more effective. Finally the chapter will conclude with discussions around the limitations of the study and suggestions for future research.

5. 2. Understanding contradictions in the activity systems of participants as a key to innovative change

The main purpose of the study was its contribution to the literature and address the gap in qualitative research on the topic by delineating some of the essential aspects of the phenomenon that earlier large-scale studies

failed to achieve. In so doing, this study considered as its aim description and explanation of the ways a group of Iranian teachers used ICT in their EFL instructional practices and the reasons reported for their decisions to accept or refuse to use technology. This objective was achieved by choosing a qualitative approach, and using activity theory as a theoretical lens to explore and analyse the influencing factors and conditions surrounding teachers' ICT mediated EFL practices. Data from this qualitative study suggested that although:

- participating schools were reportedly Smart
- schools were relatively encouraging and supportive of ICT use
- participating teachers had positive attitudes to technology
- and teachers had relative ICT literacy

the use of ICT for teaching learning practices was limited, and in fact it was exception rather than the norm.

Drawing on the findings of this study, it does seem the case that even improving the viability of technology, improving teachers' ICT literacy and teacher' general positive attitude to technology had not guaranteed a pedagogical transformation towards an ICT integrated innovative EFL pedagogy by these teachers. The qualitative data suggested that the integration of ICT in EFL pedagogy by participants was a complex phenomenon, which was determined by several key factors and contradictions in their context of work more than their

general attitudes or dispositions. Participants' comments and their reasoning concerning their ICT use can be better understood in the light of activity theory. The graphical representation of the teachers' activity system that was provided using Engeström's triangles in Chapter 3, is revisited for the purpose of discussion and better understanding of the individual and social dimensions of practices of the teachers (See Figure 5.1).

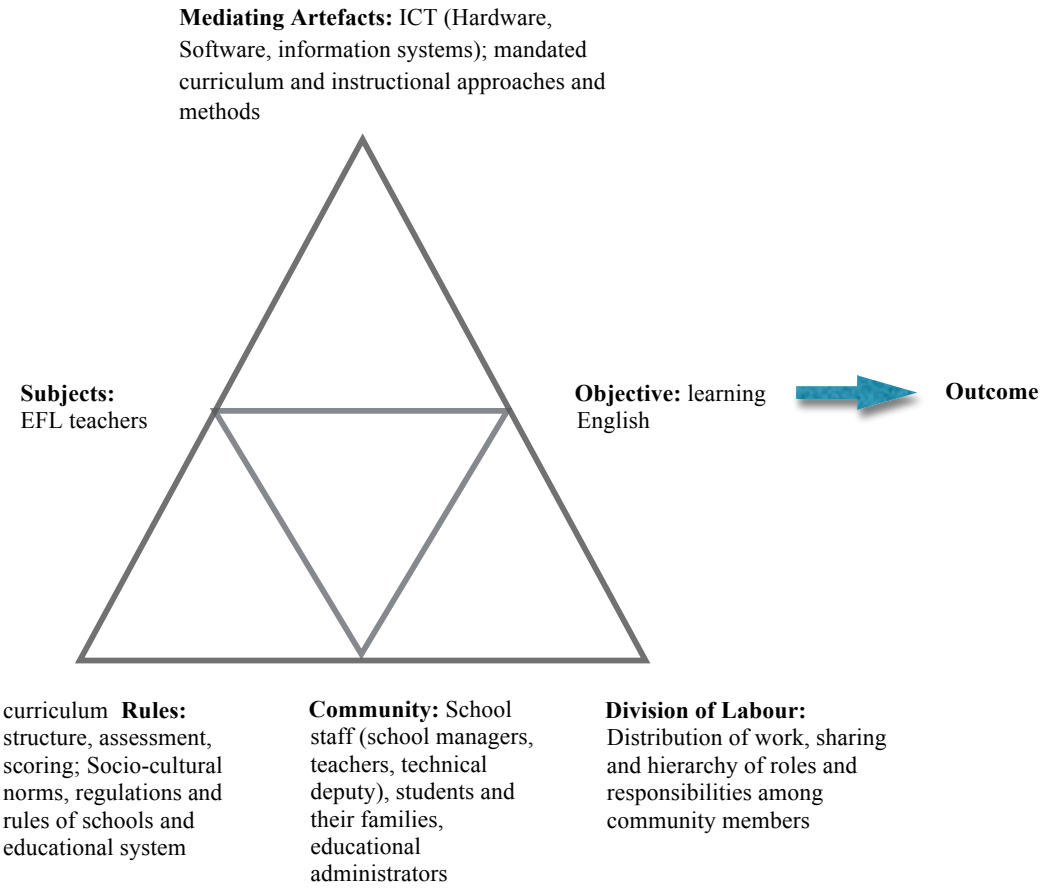

Figure 5-1 The activity system of the nine Iranian EFL teachers

An exploration of the lived and experienced challenges of participants led to the identification of factors and relationships within and beyond their activity systems. As was illustrated in the previous chapter, there were dynamic interactions between individual teachers and a range of contextual factors, including, curriculum, rules and regulations, sociocultural and other divergent contextual factors, students' background, parents and educational administrators with all their unique characteristics and complexities related to human nature. Identification of the existed contradictions (negative or positive) suggested that the integration of ICT into EFL pedagogy was more of a complex collective activity, driven by communal rather than isolated individual objectives, motives and actions.

This echoes the arguments of Engeström (2001) and Engeström and Sannino (2010) that when a new element is introduced into the activity system, it can arouse contradictions within or between the activity systems. While these contradictions can be disturbing they can also be opportunistic and give rise to positive changes: '*such contradictions generate disturbances and conflicts, but also innovative attempts to change the activity'* (Engeström, 2001, p. 137). It is therefore important not only to understand the key factors involved, but also to identify their contradictions, as this can offer some possibilities to the transformation process:

> *The identification of contradictions in an activity system helps practitioners and administrators to focus their efforts on the root causes of problems. Such collaborative analysis and modeling is a crucial precondition for the creation of a shared vision for the expansive solution of the contradictions. (Engeström, 2000, p. 966)*

Based on this perspective I believe that unfolding contradictions and identifying historicity and root causes in the activity system of the teachers could pave the way for the expansive transformation in the the system.

In this chapter, I will discuss the relationships and contradictions within and beyond the activity systems, in relation to the research questions and in light of the literature. It seems essential here to restate the research questions and continue the discussion of findings in response to the research questions. The current research project started with an overarching question:

> **RQ.** How did teachers' perceptions and beliefs about technology usefulness relate to their pedagogical technology practices?

This overarching question was broken down into three sub questions regarding 'what', 'how' and 'why' of ICT use:

- How did a group of Iranian teachers view ICT?

- How did they use ICT?
- What factors did they perceive as influencing their behaviours and beliefs in terms of the usefulness of ICT for their instructional practices?

As with the presentation of the findings, in order to provide an appropriate basis for the discussion, in answering the research questions, I will begin with the second subsidiary question, which concerns the participants' actual ICT practices. This can provide a basis for answering the other research questions.

However, prior to discussing findings concerning the pedagogical use of ICT by teachers, in order to provide a frame for examining participating teachers' ICT use in EFL pedagogy, this section begins by looking briefly at some of the discussions that were presented in Chapter 2 concerning the main assumptions behind the ICT-mediated foreign language teaching, and co-construction of classroom processes. It then goes on to elucidate a link between the findings of this study and the literature.

5.2.1 Revisiting the theoretical bases for ICT- mediated foreign language pedagogy

In seeking to investigate and conceptualise foreign language pedagogy and identifying effective foreign language classrooms, it seems

worthwhile to return to the theoretical discussions about foreign language pedagogical concepts with technology use that were reviewed in Chapter 2. This can provide a useful technological pedagogical knowledge framework for the discussion of the participating teachers' practical ICT integration.

Drawing upon the literature on foreign language teaching research, chapter 2 of this thesis discussed some of the major earlier theories of learning including behaviourism and cognitive theories at length with their implications for EFL/ESL classroom teaching-learning processes. It also considered several changes in views of the nature of learning that brought about shifts in approaches to foreign language pedagogy. Each approach or method was discussed in relation to theoretical orientation and classroom techniques and strategies:

- grammar translation method
- audio-lingual and direct methods
- Chomsky's universal grammar
- Krashen's natural approach
- early communicative approaches
- more recent strong versions of communicative language teaching such as PBI and CBI

Then, the major deficits of the earlier theories were discussed and it was argued how have been addressed in socio-cultural theory (SCT) by

shifting the view of learning towards understanding sociocultural contexts (Brown, 2007; Gass & Selinker, 2013). As was discussed, grounded in socio-cultural theory and activity theory, teaching foreign/second languages has been oriented towards a concept of teaching based on which activity or communicative task provides the contextualising framework for interaction (Larsen-Freeman & Anderson, 2011; Magnan, 2008; Richards & Rodgers, 2014). Theoretically speaking, this assumption stems from activity theory (as a learning theory having its roots in the socio-cultural theory) whose main focus is activity or practice (fuller details and substantive justifications provided in Chapter 2).

In the light of this discussion, ICT-mediated foreign language teaching was discussed. Activity theory with its fundamental concepts such as emphasis on learning through communication, interaction, collaboration, dialogue, co-construction of knowledge, and situated learning seemed appropriate to provide a framework for understanding ICT mediated communicative language teaching (Kern, 2006; Lamy & Hampel, 2007; Wankel, Blessinger, & Stanaityte, 2012). This constituted a conceptual framework for analysis and for explaining the applications of ICT by teachers in this study, and for discussing any potential merits that it can have for a foreign language classroom.

5.2.2 Subjects' use of mediating artefacts (ICT mediated EFL practices)

Participants acknowledged that they had more access to learning technologies than their counterparts in other schools. They acknowledged that they had used technology in their instructional practices, but that the numbers of hours that teachers spent using technology were minimal with some teachers' ICT use being limited to once or twice a year, which seemed to be ad hoc, as an additional practice to reward students. Only one teacher among 9 participants used technology more frequently, and this actually consisted of the use of Interactive Whiteboards that were located in regular classrooms.

Moreover, in terms of quality, technology was not exploited to develop students' higher order thinking skills such as critical thinking, problem solving, collaborative, communicative and interactive skills. And despite a reported shift towards communicative language teaching in the national curriculum document (since 2007) and in teacher training courses (as reported by teachers), almost every online or ICT mediated communication or collaboration opportunity was missed. The pedagogical activities in which teachers were involved with or without technology were identified as a textbook-driven teacher-centred traditional teaching, associated with low-level pedagogical skills such as

memorising and practising new words and grammatical structures. Even the technological tools that were in great demand by the teachers, namely the Interactive Whiteboard, could fit this practice by providing a presentational tool for the whole class. Technology was only used by individual teachers to help content instruction, and to support what they were already doing in traditional classrooms i.e., to implement grammar translation and drill and practice methods.

Therefore, this finding suggests that teachers' choice of tools and technology use suited their specific learning context by embracing a specific curriculum, rules and goals and teachers' situated views of language instruction. To this end, they accepted the kind of technology that they perceived to be useful for their purpose, and applied it in a way and to the extent that they were more comfortable with. And in fact considering the requirements of the Iranian national curriculum, it could be said that the selection of tools were based on their practicality and appropriateness for the curriculum objectives and teachers' pedagogical habits.

This finding is not very surprising, as it is consistent with previous research (Cuban, 2001; Fullan, 2013; Fullan & Langworthy, 2014; Lamy & Hampel, 2007) that suggests that most teachers are unlikely to use technology unless they adapt it to fit in their pre-existing pedagogical aims, and use it in ways that supports their pre-existing pedagogies and

content that they are comfortable with. Fullan (2013) draws attentions to several surveys and reports in the U.S about how teachers are using technologies, but in all of them, as he commented, '*the crucial…pillar - pedagogy, or fostering actual learning- is neglected*' (p.36). Fullan (2013) commented on research by Joan Ganz Cooney Centre that reported that 50 percent of teachers in their survey were using digital games in their classroom at least twice a week: '*of course this is not quality implementation let alone integration with pedagogy'* (p. 39). As the research (Davison, 2005; Fullan, 2013; Fullan & Langworthy, 2014) suggests if effectively implemented, ICT has the potential to support pedagogical strategies that contribute to the development of students' higher order thinking skills. Moreover, it can promote an engaging and learner-centred instructional environment supporting co-construction of meaning through social and meaningful interactions and collaborations between students and their teachers and among students, and promote creative and critical thinking and problem solving. However, it has also been argued that effective technology use requires an appreciation of technology potential and careful planning (Davison, 2005; Fullan, 2013; Fullan & Langworthy, 2014). From this perspective, Fullan and Langworthy (2014) argued:

> *On the one hand, digital tools and resources have the potential to enable, expand and accelerate learning in ways previously unimaginable...But on the other hand, most of the billions invested by schools and education systems in technology have not achieved that potential. Without changes to the fundamental pedagogical models by which teachers teach and learners learn, technology investments have too often simply layered slightly more entertaining content delivery or basic skill practice on top of conventional teaching strategies that focus on the reproduction of existing content knowledge (p. 30).*

Thus, in parallel to previous research, a major issue that came to the front in the present study was a lack of ICT knowledge for teaching. What was surprising about the findings of this study was that even in the service of the old pedagogy, this sample of Iranian teachers very rarely used the ICT that was available to them.

A number of influential internal and external factors came into play and interacted with one another and with teachers in a number of ways and tended to sabotage opportunities, that is, prevented teachers from taking full advantage of technologies despite their general desire to do so. To see all sides of the issue, we need to examine the interplay

between the individual teachers as actors and collective factors, and the ways they influenced teachers' practices.

5.2.3 Subjects' perceptions of the mediating tool (ICT) and its role in their instruction

When I asked participants for their views about technology, most participants initially emphasized the vital role of technology in their everyday life and in their schoolwork. They commented that ICT could contribute greatly to enhancing teaching learning practices and some (Ghadir, Jafar, Mostafa, and Davood) even stressed that given the limitations of the English as a foreign language in Iran, learning EFL in the context of Iranian schools could not be possible without technology.

However, their views of ICT contradicted their actual use of ICT in classroom in terms of quantity and quality (as explained above). Thus, the question that needed to be clearly answered was why despite teachers' positive attitudes towards ICT their practices were limited? What factors prevented them to implement technology that they viewed so valuable for their pedagogical practices?

A careful examination of the literature on teachers' ICT use shows a considerable inconsistency in the findings in relation to teachers' attitudes. Some research results suggested that teachers' positive or negative attitudes to ICT had a significant impact on their acceptance of

ICT. However a huge body of research led researchers to conclude that teachers' attitudes are not determinants of the successful application of technology. For example, a number of recent studies (Afshari et al., 2009; Albirini, 2006; Ashtarian, 2012; Dashtestani, 2012; Park & Son, 2009; Rahimi & Yadollahi, 2011b; Yucel et al., 2010) claimed that teachers' positive attitudes towards ICT do not predict their ICT application. As a result, these studies considered several other factors that were important determinants of ICT use and could influence classroom practices, such as teachers' self-efficacy, the level of access to ICT, collegiality etc. There is also great variation in the scale, the theoretical perspectives, contexts, subjects of those studies, and how the influencing factors leave their impact and to what extent. Therefore, the literature cannot solely be used to make inferences about what influences teachers' perceptions and their behaviours. In a similar discussion, Zhang and Sun (2009) attest to the negative theoretical and practical implications of such interpretations and conclusions. They suggested that the attitude is a vital aspect of the research on social context including the acceptance or use of ICT, and invite researchers to developing awareness of this when drawing conclusions:

> *A concluding statement that attitude is not a significant antecedent of intention could mean that the theories of reasoned action and*

> *planned behavior and the elaboration likelihood model may not apply to ICT acceptance and use research as they would to other social contexts. This can be discouraging and, thus, diminish research efforts in finding the gaps and holes in existing research. At the practical level, such a concluding statement can influence ICT stakeholders' strategic investment on their efforts in improving users' acceptance, use, and continued use of ICT* (p. 2049).

This study focused the exploration and discussions of its findings on a dialogic relationship between the meanings that the teachers initially attached to the phenomenon and a range of the historical, socio-cultural and contextual factors that their lived experiences support when they are asked to reflect on their own practices.

Answering all questions regarding the teachers' attitudes is beyond the scope of the current small scale and limited PhD project, but a major effort in the current study was to explore the nature of teachers' thinking in relationship to their actual ICT practices and the context in which they act.

As mentioned earlier, a few local quantitative studies had investigated Iranian high school EFL teachers' attitudes towards technology use. These studies (Ashtarian, 2012; Dashtestani, 2012;

Rahimi & Yadollahi, 2011a, 2011b) similarly indicated that teachers had generally strong desires for ICT uptake, but that a number of barriers impeded technology uptake in their classrooms. The most important impeding factors identified in these studies included lack of access to technology and teachers' lack of skills. Although these studies made a significant contribution to the understanding of the integration of ICT in the context of Iranian schools, due to their nature and design they missed the details of:

- teachers' perceptions of technology in reference to their own pedagogical practices
- a comprehensive list of factors and the extent to which and the ways the influential factors impact teachers' classroom practices.

In addition to theoretical and methodological differences, another key difference between the current study and the earlier research projects was that while the previous studies in Iran had been conducted in mainstream schools where ICT was reportedly absent, the current study was conducted in schools that were so called Smart Schools, involving participants who claimed they were incorporating technology in their practices. But still technology use was limited and teachers were not using it routinely. Previous studies suggested that technology use was determined by teachers' individual characteristics and factors such as age and years of teaching experience. For example, Rahimi and

Yadollahi (2011a, 2011b) made a comparison between novice and experienced, and younger and older teachers and the conclusion drawn that younger and less experienced teachers were more willing to use ICTs in EFL pedagogy. Although due to the design of the study, its findings cannot be generalized, in contrast to Rahimi and Yadollahi (2011a, 2011b), the only teacher in the current study who expressed having technological anxiety was the youngest participant, while the oldest participants, with more years of teaching experience, held more positive views and were more enthusiast about technology use. But in terms of gender, findings of this study appear to be consistent with Rahimi and Yadollahi (2011a, 2011b) in that it did not indicate gender differences in terms of access to or implementation of technology.

Other studies in Iran or elsewhere that examined the difference between male and female teachers on factors of availability or patterns of practice have indicated otherwise. For example, Ashtarian (2012) who undertook a survey in the Iranian province of Kermanshah with 56 teachers, 40 females, 8 males reported that hardware was more available to Iranian female teachers than their male counterparts, but despite having more access to hardware, female teachers did not demonstrate more ICT use in terms of quality or quantity. Elsewhere, Almekhlafi and Almeqdadi (2010) investigated teachers' views and practices towards technology in the context of United Arab Emirates' schools using a

mixed method approach and reported that female teachers embraced technology more than males. They indicated that female teachers had more skills that led to them having more application of ICT using a wider range of tools in their practices than would men. However, they did not provide any explanations and interpretations in reference to individual and socio-cultural aspects of their context of practice to provide probable reason/s for female teachers' better performances. There is in fact disagreement in the literature concerning gender differences when it comes to technology use by teachers. For example, in terms of the gender of the subjects in relation to their pedagogical content-knowledge, recent research by Safaie Asl et al. (2014) on the pedagogical knowledge of Iranian EFL teachers, conducted in the Iranian East Azerbaijan Province, indicated no significant difference between women and men.

Participants in the current study irrespective of their age, gender and teaching experience, time available to them, the level and ease of access to technology practised almost the 'same' traditional pedagogy when it came to technology use.

In order to explore the complexities of the relationship between teachers' perceptions and their practices, initially a 'what' question about participants' perceptions was asked to find a detailed answer as to 'why' teachers' ICT use in the current study and the previous research was

limited and at a low-level despite their expressed willingness to do so. But in an attempt to find a meaningful explanation for the relationship between teachers' perceptions and their actions, this question about 'what' led to exploration of 'how' participants were thinking and what their beliefs, motivations, intentions, feelings and emotions, concerns and preferences, and their ICT knowledge in general and in relation to their EFL practices in specific were. As a result of such in-depth exploration of mental properties, deeper 'levels' of individual teachers' cognitions about technology, came to the surface, and that 'how' these mentality were influenced and shaped in their specific conditions and settings.

As an example, one of the participants, Isac, in his earlier comments, said that he preferred not to use technology in general and computer and video projector equipment in specific. He commented that he was not comfortable with technology, which he referred to as 'technophobia'. So far this might seem self-explanatory and appear as an individual issue. To support this view, he said that he had access to overhead projector in his class, but he had never used it and did not believe it was of any value. But, in answer to my further questions, he explained the current situation in which he was working, namely that there was a video projector in each class but there was no computer connected to the device. Then, his later comments indicated that his lack

of access to a computer connected to the video projector in this school on the one hand, and his lack of familiarity with equipment set up and use for lesson plan and teaching on the other hand were major disincentives and let to fear of use. He explained his experience of teaching in another school where I-board and computer was available to him, and he had learned how to work with Interactive Whiteboard. When the discussion came to this point, he enthusiastically explained using I-board as a facilitator for his teaching learning practices in his classes in that school. Providing comfortable access to the equipment and the opportunity to learn working with the device had developed his vision of using ICT even as a teacher with technological anxiety.

Inadequate training combined with insufficient access to equipment and technical support turned out to be major disincentives for most teachers. This finding suggested that teachers, who were reluctant to use ICT and did not believe in its impact, had not actually been enabled to gain maximum impact from technological tools. This finding is actually reflected in previous studies such as Kotrlik and Redmann (2009), which suggest that teachers' technology anxiety decreases and technology use increases as teachers' sufficient access to technology and learning to work with technology increases.

As such, I took into consideration these conflicting perspectives and insights and examined each case based on their real-life situations. In

this regard, to understand various dimensions of the integration of ICT into EFL pedagogy in Iranian classrooms, the activity systems of the 9 participants were explored. In so doing, first, I focused on the perceptions and motives of teachers as the subject of the activity and members of a collective educational system. Next, the technological tools that were available to them and the ways they were using the tools. Then, the reasons for the ways they were implementing technology or in an activity theory terms how their ICT use (i.e. activity) was influenced by individual and contextual factors. This led to the identification of several context-dependent relationships between components of the activity system. Some of these interactions within and between the activity systems presented contradictions at different levels, as will be highlighted and discussed at length in this chapter. Some of the contradictions were at the primary level, i.e. the contradiction within the individual subjects such as perceived values of ICT and communicative language teaching in teaching versus their classical concept of the tools and their lack of knowledge/skill to incorporate the new tools in service of a communicative pedagogy. Yet, some contradictions were secondary such as accessibility of the tools (due to fund, technical issues, the importance that organisational management team attach to these tools). The third level of contradictions rose, as the use of the technological artefacts is a subordinate to and resisted by the classical form of activity

motive at the system level. And the fourth level of contradiction concerns the relationship between the target activity system and neighbouring activity systems with which they have interaction.

It was beyond the scope of this thesis to encompass the whole activity system, as this would have required closer investigation of administrators, students and other components of the system (the limitations of the study will be discussed later in this chapter). Nevertheless, in this chapter I will identify the contradictions and tensions that were perceived and experienced by subjects. This allows for an analysis of the broader context in which I can then identify the sources of change that can lead to the physical and social reformation of their activities and achieving the intended outcomes.

The discussion of tensions in this activity system is not meant to be exhaustive. I will discuss those tensions that were most important to participants, and their impacts were more significant on their practices. Findings of this study indicated that while teachers initially expressed positive or negative views about technology, the individual teachers' selection of specific technological tools, the amount and frequency of use and the type of use for their classroom practices was determined by six key elements:

- comfortable and rich access to technology in the classroom
- pedagogical objectives

- national curriculum and exams, and the outcome of technology use on students' achievements in exams
- teachers' technological literacy and their self-efficacy in application of educational technologies
- teachers' pedagogical approaches to language teaching that in turn were shaped and influenced by:
    - their past experiences as learners coupled with their teaching experiences through trial and error
    - the pedagogical knowledge they brought with them to classroom from their initial and continued teacher education programmes
    - their pedagogical aims and expectations
- political, and socio-cultural structure of the society and specific learning contexts

These elements play key roles in determining the ways teachers look at ICTs for their own pedagogical use and the ways they put it into practice. But most of these factors were at work as opposing forces that could pose serious obstacles, and create blocks to the way ICT should be integrated into EFL pedagogy by Iranian teachers.

The influencing elements listed above might seem to be a combination of factors to which other researchers (Albirini, 2006; Ashtarian, 2012; Dashtestani, 2012; Fullan, 2013; Fullan & Langworthy,

2014; Hennessy et al., 2008; Park & Son, 2009; Rahimi & Yadollahi, 2011a, 2011b; Razani, 2012; Shahamat & Riazi, 2009) have referred as factors that keep teachers from using ICT in their teaching practices. Nevertheless, the focus in this study, other than finding a cause and effect relationship, was to uncover the manifest and hidden contradictions, as they surface, to provide a more elaborated framework for understanding the interplay of teachers' cognitions and behaviours and the way they have shaped and evolved.

One of the contradictions that impacted teachers' perceptions and resulted in their limited use of ICT in their own classrooms stemmed from the poor technological infrastructure.

5.2.4 Contradictions related to access to the mediating tools: ICT infrastructure in schools

The literature on the use of ICT in ELT in Iranian schools (Ashtarian, 2012; Avanaki & Sadeghi, 2014; Sadeghi & Bidel-Nikou, 2012; Shahamat & Riazi, 2009) suggested limited ICT use in mainstream schools due to lack of access to technology in schools. For example, concerning the materials used in EFL classrooms, the results of a research by Sadegi & Bidel-Nikou (2012) suggested,

> *Most EFL teachers (74.26 %) commonly used whiteboards or blackboards…The results also indicated that other materials are not used by most of the teachers. This can be because of lack of such equipment or materials in most high schools (p. 178).*

As such, in order to reduce the influence of the lack of access to resources as well as the lack of positive attitude or experience, and to provide meaningful insight on actual ICT use in teaching practices, I recruited participants who were reportedly using ICT in their teaching practices from across so called Smart Schools that according to the Departments of Educations' recommendations were equipped with educational technologies. Most of these schools were well known and advantaged for their achievements and their access to digital education technologies. Based on these indicators, I anticipated that participants would exploit the technology that they had access to in their teaching practices to its full extent.

But as mentioned earlier, technology use by the teachers was limited, and the first and foremost reason for limited application of technology in their instruction as commented by them was that the ICT infrastructure in the participating schools at the time of the study was not suitable for effective integration of ICTs.

The qualitative data from this study suggested that ICT infrastructures in particpating schools were insufficient, and not well established. Not every classroom in participating schools had the opportunity of having access to ICT tools. In fact in most schools, the availability and quality of technological equipment including computers and video projectors/Interactive Whiteboards in classrooms were inadequate. In some cases, where video projectors or smart boards were available in classrooms, some required components such as computers were missing and not readily accessible. In the existence of such issues, despite the availability of ICT tools, they actually became non-functional.

Data suggested that the inadequacy of resources, difficulty of access and poor technical support resulted in a tension between teachers as subjects and the technological resources as mediating artefacts. Teachers handled these tensions differently, because of the varying access and the relationships they had with the materials. Most teachers had to move their students to another classroom, laboratory, or ICT rooms in order to use video projectors or Interactive Whiteboards. Using ICT rooms, however, was not always possible as they were also insufficient and in most cases required booking. Teachers concerned that science laboratories (Chemistry, Biology, Physics) or general ICT suits could not address EFL pedagogical needs. Apart from being inadequate, most of

these ICT equipped rooms had a layout and inconvenient working space that rendered them insufficient to support EFL subject teaching experiences. Furthermore, moving from their classrooms to a separate ICT room was not favourable by teachers as they viewed it distracting and time wasting.

The issue of the access to equipment in specific places other than the main classroom space has been reported as a serious barrier to ICT use (Çelik & Aytın, 2014; DelliCarpini, 2012; Hennessy et al., 2008). For example, Çelik & Aytın (2014), who reported on the inadequacy and limitations of the computer rooms in the context of Turkey as a preventive factor, saw this as preventive factor and common in developing countries. While this could be true, there are studies that suggest this issue is not specific to developing countries. For example, DelliCarpini (2012) based on the findings of a quantitative research into the integration of technology by TESOL teachers in New York reported that ninety-two percent of teachers reported that limited access to equipment in their classroom and having to book time in computer lab as a serious preventive factor for their technology use. Similarly, Hennessy et al. (2008) reported that inadequacy and irrelevance of the science digital labs for foreign language teaching and the need to compete with other teachers to book them, served as a significant barrier to EFL teachers' technology use.

The access issue at schools was regarded as an important factor that prevented teachers from integrating ICT into EFL pedagogy. Hence, adequate resources have to be supplied for teachers in classrooms and measures have to be taken to ensure the use of ICT in pedagogy effectively. An important factor that had contributed towards the lack of access was that most teachers were not aware of the range of schools' instructional technologies when the tools were not situated in their classrooms. This highlighted the need to help teachers by explicitly and directly making them aware of technological equipment available to them in schools. These findings indicate that providing greater access to ICT is not simply a matter of increasing ICT equipment.

Teachers in this study distanced themselves from ICT tools because they did not wish to find themselves struggling for a while in the limited class time with 30-38 students to get the device set up or wondering what was wrong with the tool. It could be understood that the pattern of access as well as immediate technical help and support is instrumental in determining ICT use. These findings supports the previous research (Hennessy et al., 2008; Razani, 2012) on the integration of ICTs into teaching learning processes that suggests that providing greater access to ICT is not simply a matter of increasing ICT equipment and that more ICT does not ensure more impact if the existing resources are not managed effectively.

While comfortable and rich access to technology is a necessary condition, the mere introduction of technology into schools will not change teachers' behaviours. The integration of ICTs into pedagogical practices is a multi-dimension and multi-layered phenomenon that is far more complex than just possessing technological artefacts.

However, adequate and comfortable access to technology and effective management of technological infrastructure is just one of the requirements of integration of ICT in the EFL pedagogy. Teachers were asked if they were provided with adequate access to technology, whether they would incorporate ICT more in their teaching practices, and their responses was still negative. This echoes the findings of the previous research (Albirini, 2006; Henessy et al., 2008) that indicated that just adding technology to schools does not ensure its application. In this line, Hennesy et al. (2008) pointed out, '*teachers proved resistant to the notion of 'bolting on' ICT to the curriculum or using it simply because it is available or its use is encouraged or expected'* (p. 21).

5.2.5 Contradictions between rules (mandated curriculum and assessment system) and tools (ICT mediated communicative instruction)

In this section I will have a look at the tensions resulting from the characteristics of the national curriculum and exam standard which all

schools were required to follow as one of the major structural issues that was identified by the data. As mentioned earlier, teachers' practices in the classroom were actually governed by the national curriculum, national exam system and school culture. In the Iranian National Curriculum Document (since 2007), the use of ICT in teaching learning activities has been explicitly spelled out. However, the mandated textbooks seem to be the only resource for teaching and learning English in Iranian schools.

Learning objectives as spelled out in the National Curriculum Document (since 2007) stress communicative skills, but at the time of the current study the Ministry mandated textbook and the scheme of work that had been published to teachers leaned toward a behaviouristic approach to pedagogy and a grammar translation method. In practice, the mandated textbook was not just a base for teaching, but for most teachers it was the only medium through which they teach. Most schools, as teachers' comments suggested, sanctioned textbooks other than the mandated ones. It can be said that teachers' instructional practices were strongly influenced by the ministry mandated textbook-driven curriculum that dictated both traditional classroom practices and shaped learning goals.

With the current curriculum reflecting a structural view to language instruction and evaluation, students need a lot of drills and practicing

mock questions to pass exams successfully. To facilitate this goal, the material that they used through the medium of ICT was the same textbook content, and the same drill and practice albeit through large screens.

The problems of the current Iranian EFL curriculum, and the inadequacy of the textbooks that are at the centre of the curriculum have been consistently examined and criticised in literature (Azizifar, Koosha, & Lotfi, 2010; Jahangard, 2007; Riazi & Mosalanejad, 2010; Sadeghi & Bidel-Nikou, 2012; Shafiee-Nahrkhalaji, 2012). For example, Jahangard (2007) held the view that the Iranian EFL curriculum in high schools was inadequate and could not lead to learning English. He focused his study on the evaluation of four Ministry-mandated textbooks that were taught at four levels in Iranian high schools, and, concluded that textbooks were mainly focused on improving reading skills and structure with all other skills being pushed to the margin. In addition, he argued that the learning objectives along with guidelines for classroom practices were not clearly set and defined in textbooks by the authors. There are sets of restrictions as what teachers should not do, but they do not explicitly communicate what learners are to learn and what strategies teachers have to take in order to enhance students' learning. As a result:

> *Teachers actually dissent as to what teaching methodology to be employed, which skills and psycholinguistic abilities to emphasize and what to include in their exams. Now, the nationwide exams which are administered by the officials for third graders, are playing the role of an agreement document among teachers which, in turn, has its own negative effects known as the 'washback effect'.* (Jahangard, 2007, p.5)

The inadequacy of textbooks and EFL curriculum was reflected in the findings of Sadeghi and Bidel-Nikou (2012) who investigated the perceptions of 171 EFL teachers in Iranian West Azerbaijan province about their practices. One item in their open-ended questionnaire asked participants to explain the method/s they employed in their teaching, '*but unfortunately, 74.32 % of them did not provide any explanations for their choices*' (p. 175). They did not provide an explanation for this finding. But I think my findings can explain why. As one of the participants in my study stated,

> *...I wonder based on what approach the textbook has been written, and in my opinion it is not supported by any approach or teachable with any methodology. We can amuse students with the textbook but it is not an effective source for communication and*

does not allow the opportunity to teach them communication.

(Ghadir, 339)

Such results suggest that the problematic textbooks and the textbook driven curriculum serve as major sources of pedagogical issues that face teachers. Teachers and researchers alike see both the curriculum and the exam standards as significant issues that left students and teachers frustrated, bored and unengaged. Fullan (2013) names this a 'crisis'. This crisis of dissatisfaction and frustration with the Iranian high school English textbooks was reflected in Sadeghi and Bidel-Nikou (2012) findings that indicated that 59.06 % of the teachers were dissatisfied with the textbook content that was mostly focused on reading, and demanded changes to school textbooks.

Teachers' comments suggested that both they and students were dissatisfied with the curriculum and the pedagogical practices, which were seen as neither engaging nor leading to effective learning. It was clear from teachers' comments but also reflected in literature (Ilomäki & Kankaanranta, 2009; Rosen, 2010) that out of school, students enjoy their own responsibility for searching, choosing, and evaluating the information that has challenge and novelty. But it seems that in Iranian schools, students had little choice regarding their learning and teachers were responsible to implement a fixed textbook-driven curriculum that

had been obligated externally. In this kind of teaching, information comes from the teacher and via dated textbooks that bore teachers and students alike and lack intellectual challenge. Out of school information comes from variety of sources having the factors of novelty and connected to real life (Ilomäki & Kankaanranta, 2009; Rosen, 2010).

Similar to these findings, Riazi and Mosalanejad (2010) analysed English textbooks that were taught at three levels in Iranian high schools based on Bloom's taxonomy. They concluded that lessons in English textbooks were mainly focused on the lower level of Blooms' taxonomy including comprehension and knowledge. Riazi and Mosalanejad (2010) explained that the main concern is achievement in exams, which are focused on the lower level order cognitive processes such as knowledge of grammar and vocabulary. To achieve excellence in such tests, they argued that students are required to passively memorize content by rote and transfer them to the exam sheet, and this has directly impacted the classroom teaching learning practices. Riazi and Mosalanejad (2010) related this issue to the learning objectives at the macro level of the Iranian education system with its reliance on rote learning.

Findings of the current study, illuminates a big distance and a major contradiction between the intended objectives as spelled out in the National Curriculum (since 2007) and the implemented curriculum in schools. These findings support previous studies (e.g. Jahangard, 2007;

Riazi & Mosalanejad, 2010) that examined the content and structure of EFL textbooks as the primary and mere vehicle of the curriculum and classroom practices in Iranian schools, and recognised the Iranian national EFL curriculum that is translated into the textbooks as dictating a grammar translation method along with drills.

5.2.6 Rules' (the mandated curriculum and assessment), the classical form of activity, and their impact on teachers' perceptions and use of ICT

The data from this study suggests that despite rhetoric, what the current curriculum practically demands is the extensive reliance on the mandated textbooks that could be taught with established traditional pedagogy that teachers had acquired a practical knowledge of which over years and felt more comfortable with. This suggests that teachers' pedagogical beliefs and habits, and their concerns over conformity to curriculum standards directly impacted on their understandings of ICT affordances and their software/hardware choice. This finding is related to Hennessy et al. (2008) who saw the nature of the curriculum, exam standards and other external regulations in their context of practice. In fact, in this activity system, the practical strategies that teachers employed in their classrooms were developed through interaction between their cognitions, and the object of the activity within their

contexts of the study. This finding is also resonant with previous research that indicated the interconnectedness of teachers' knowledge, beliefs and perceptions towards the new artefacts and the reality of their classrooms (Albirini, 2006; Blake, 2013; Chen, 2008; Kern, 2006; Papanastasiou & Angeli, 2008; Park & Son, 2009).

Pressures that teachers perceived to conform to syllabi, textbooks, and exam standards and pedagogical cultures and habits of teachers and students that had been formed and established in such a traditional education system on the other hand, shaped their perceptions of ICT usefulness and patterns of use and led to them view ICT as a support for their textbook based drill and kill instruction. This finding echoes Hennessy et al. (2008), who indicated that one of the main important challenges to implement ICT in EFL pedagogy was teachers' old teaching habits:

> *Teachers' concern with preserving their subject culture inevitably led to some pockets of resistance to using or over-using ICT, again in English particularly, where pupil preference for using it was deemed insufficient* (p. 23).

This finding is also consistent with Fullan (2007, 2013), who argued that teachers who have got used to the traditional methods of teaching may find technology and innovation disruptive and disturbing, and this may

lead to resistance. Why is this the case? One simple answer is laid in this proverb: *'the devil you know is better than the one you don't'*. Black and Gregersen (2002) explain this in terms of a psychological filter, or 'the brain barrier' as they term it, that people experience when they are about to stepping into the new directions even if it is quite visible to them:

> *The clearer the new vision the easier it is for people to see all the specific ways in which they will be incompetent and look stupid. Many prefer to be competent at the [old] wrong thing than incompetent at the [new] right thing* (p. 70).

Offering a similar perspective, Fullan (2008) argues that changes in individuals' understandings and behaviours are key to successful change. But changing beliefs and behaviours according to Fullan is often linked to fears and concerns because it is associated with the loss of what one actually knows and possesses and replacing it with what is still theoretical and takes a lot of time and effort to be internalised and translated into practice.

As was explained earlier, the data in this study differentiated between teachers' general attitude to ICT and teachers' perception of and the acceptance of the use of ICT in their own classrooms. In relation to the former, most teachers expressed high enthusiasm. But concerning the later, i.e. perceptions of the affordances of technology and acceptance of

ICT for their own instruction, teachers' cognitions were influenced by an array of factors. As with the previous studies, findings of the current study suggested that one of the challenges all participants faced in their classroom and in relation to ICT use was their unpreparedness for their new role. This study highlighted the importance of teachers' knowledge and their professional development as key to the effective integration of ICT into pedagogy.

5.2.7 Subject-tool contradiction (teachers' knowledge of ICT-mediated pedagogy)

As discussed in Chapter 2 of this thesis, the literature suggests that teachers need to be equipped and updated with knowledge to achieve the pedagogical goals with ICT (Afshari et al., 2009; Hughes, 2005; Noss, 2012). It was even argued that teachers' positive attitudes to and their exploitation of technology in their teaching practices are strongly impacted by their knowledge of the content-specific technology pedagogy (Hughes, 2005; Koehler & Mishra, 2009).

Technological, Pedagogical Content Knowledge (TPACK) as a conceptual approach that combines the knowledge of technology, pedagogy and content provided a clear guidance and a framework for examining teachers' current understanding of the potentials of technology, their current capacity to integrate ICT into their teaching

practice, and the types of skills and trainings that they need to develop in order to work effectively. TPACK was discussed in Chapter 2 at length, but to recall, it is defined as:

> *TPACK is the basis of effective teaching with technology, requiring an understanding of the representation of concepts using technologies; pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face; knowledge of students' prior knowledge and theories of epistemology; and knowledge of how technologies can be used to build on existing knowledge to develop new epistemologies or strengthen old ones.* (Koehler & Mishra, 2009, p. 66)

This indicates that teachers need to make a meaningful link between the content (EFL), pedagogy, and technological resources in order to exploit maximum potentials of ICT and to create innovative pedagogies.

As was presented in the previous chapter, data from the current study suggested that the major effort to improve Iranian EFL teachers' capacity in relation to their ICT mediated practices was narrowly focused on developing their ICT literacy skill. ICT literacy isolated from content and pedagogy did not enable them to exploit the affordances of a

wide range of new technologies that were added to schools recently. This in turn affected their recognition of the ICT affordances, and opportunities for improving existing practices.

While data suggested that teachers needed support in learning the range of resources that were available to them i.e. technological knowledge, even more importantly finding and implementing effective pedagogies seemed to be a big challenge for teachers. This created a tension. Even those teachers who had a strong desire to use ICT, or were encouraged by the school managers to incorporate technological tools, were essentially left unprepared and unable to integrate ICT effectively into pedagogy. Of importance was that teachers understood that they needed to restructure their knowledge and/or improve their professional capabilities in order to use ICT for teaching practices. But they faced problems in finding, choosing and applying the appropriate pedagogy. And their resistance to using technology seemed to stem from the fact that they did not know how to use ICT to improve pedagogy. These findings confirm previous studies (Albirini, 2006; Baylor & Ritchie, 2002), which indicated that untrained or poorly trained teachers, who lack the knowledge base to integrate technology into pedagogy and the necessary attitude, are unlikely to use technology even if the most sophisticated technologies become available to them. Baylor and Ritchie (2002) suggested that teachers who understood the relationship between

technology and pedagogy, and could realise the potentials of technology to enhance students' learning would be more likely to implement technology in their teaching. Similarly, Yucel et al. (2010) and Rahimi and Yadollahi (2011b) found that teachers with higher levels of competence in using technology were found to be more willing to use technology.

It was a struggle for teachers to find out how to apply technology to enhance their pedagogical practices as it involved a complicated and costly process of trials and error. This finding supported Fullan (2007, 2013) who argued that if teachers wanted to know how technology enhances pedagogy, they had to find ways to do so on their own. Even teachers' concerns over lack of time could be considered in relation to their perception of technological affordances. Most teachers generally complained about limited EFL classroom time (around 2 hours a week) and expected an allocation of extra hours to classroom time to enable them to integrate ICT. Although the shortage of time was a factor in itself, it actually arouse due to their not having been empowered by strategies to use the potential of technology to both speed up their work (as some teachers reported) and to increase learning time. The lack of time could be considered as a rationale for their reluctance to use ICT. But in fact, the major reason seemed to be limited training.

5.2.8 Contradictions between subjects' professional training and tools

The findings highlighted the importance of initial and continuing professional development that could support teachers in their ICT use. But in practice most teachers in this study resisted attending CPD courses and as a result there were teachers who had received no or little training. This finding supports the previous research (Rahimi & Yadollahi, 2011b; Sadeghi & Bidel-Nikou, 2012; Safaie Asl et al., 2014) that related Iranian teachers' limited expertise to their lack of or limited professional training. For example Safaie Asl et al. (2014) conducted research on teachers' pedagogical content knowledge in the Iranian city of Marand, involving 119 EFL teachers. They found teacher' limited pedagogical knowledge and related teachers' limited expertise to their lack of or limited professional training. However, from a slightly different perspective, Farhady et al. (2010) believed that Iranian EFL teachers' knowledge and understandings of theoretical approaches to language teaching were at an acceptable level, but the issue that remained was the application of the knowledge that they possess. But they still remained in the same vein of interpretation:

> *Assuming that a teacher is the most significant factor in the whole educational program, we need to invest as much as we can in providing pragmatic knowledge to our teachers.*

These studies, however, are not specific about why this was the case that teachers' practical knowledge/skills was limited and how this could be improved. The current study in its exploration of the internal and external factors and their relationships and interactions within and beyond the system, explored teachers' views and experiences of CPD programmes and revealed that teachers were generally dissatisfied with the quality and quantity of CPD courses. They believed that they had not been given the opportunity to say what training they needed. Their complaints also included content, structure, nature, and timetable of training that were irrelevant to their contextual needs and circumstances.

In face of such issues, some school managers, initiated in-school training. The on-site training was based on teachers' contextual needs and were considered by teachers as more efficient although not ideal as they still were not able to provide teachers with techniques and skills that they needed for the successful implementation of ICT. And teachers still were not given enough of a say in what training and how they needed.

In addition to providing professional development opportunities, the managers encouraged or required their teachers to use ICT in their

teaching practices accordingly. As a driving force, in some of these schools the use of ICT for pedagogical purposes was considered in the evaluation of teachers' performances. Teachers valued such initiatives, however, in the views of teachers these limited actions were not enough in such a system of constrains especially given their workload and the incentivising system of funding and payments.

Findings emphasized the importance of equipping teachers with skills, knowledge, and resources required for the effective implementation of ICT in the initial teacher training and the on going in service professional developments based in schools as one of the necessary conditions.

In addition, providing teachers with internal and external emotional supports and incentives can help teachers overcome some of the challenges that they encounter in the implementation of the change. This finding can be related to Fullan's (2003, 2007, 2013) call on the education systems to respond positively to teachers' needs, and establish an atmosphere that provide them with care and support if they want to keep them engaged and efficient in their new roles. This may require a significant shift in the orientation of the school leaders as key players who based on these findings can have significant positive or negative impacts on the achievement of real success. From a similar perspective, Fullan (2013) viewed the vision of school leadership and its support of

the innovative ICT mediated practices, as a key driver for successful change.

But above all else, the findings suggested that in such a complex system of interactions and multiple human actors, to support the successful implementation of ICT, it is also essential to provide students with cognitive support and develop their skills for the ICT mediated learning.

5.2.9 Contradictions between community and tools: perceived students' lack of ICT skills for learning

Although it is believed that present day students are 'tech savvy' and move ahead of their teachers, most participants in the current study expressed concern over their students' lack of sufficient technology skills for learning. This is to some extent supported by Fullan (2013). Fullan (2013) cited a study undertaken by the Media Awareness Network (that traces the developments of young learners) on students in some digitally advanced schools in five regions in Canada. Learners participated in this study according to their teachers were motivated and competent to work with all kinds of recent communication and networking technologies including iPad, iPod, smartphones, computers and more. But after having a close look at their technology use, researchers concluded that the students lacked sufficient skills to use

technology for learning. Fullan (2013) related this discussion to a lack of effective pedagogy and argued that the mere availability of ICT infrastructures is not the point.

While findings of the current study supports Fullan (2013) discussions, the issues raised in this study about students' lack of ICT skills, at the very basic level was also related to the discussion of another major issue i.e., lack of a home Internet connection or computer for students that according to teachers was an issue related to factors such as families' budget, parents' and schools' concerns, or lack of awareness of the technological values for learning.

5.2.10 Rule-tool contradiction: Socio-cultural considerations concerning the use of ICT

Even if other contradictions are successfully resolved, still another continuous and fundamental contradiction seems to remain. This is foundational to other contradictions and can emerge in all organizational contexts and at all levels. As was explained in the previous chapter, because digital technologies had just recently been added to few schools and were not ubiquitous, and as teachers' ICT use was very limited and only focused on linguistic elements including vocabulary and grammar, this issue had not yet come to fore seriously. Perhaps for this reason, it has often been left unspoken in the previous studies. Accordingly, there

is little evidence of the impact of socio-cultural norms and policies on the use of ICT in Iranian schools.

From an AT perspective, individuals are dialogically linked to their social structures. This highlights the role of social and cultural norms in governing relationships within and between the activity systems of participants. It acknowledges that teachers' technology use, perspectives, and challenges and opportunities that they perceive are situated within their social contexts. The analysis of data from the current study suggested that one of the influential factors that impacted on pedagogical practices of Iranian teachers was specific to the socio-cultural, political and economic structure of the Iranian context. Chapter one provided a description of the system of education in Iran showing hierarchical authority structure with objectives and policies that are explicitly oriented towards Islamic norms as what should be valued in the system, and focused on expunging western ideas from teaching materials. It was discussed in chapter 1 how this had influenced decision making in the area of EFL pedagogy in schools and national policies for ICT use.

The documented pedagogical policies and decisions, teaching materials and the pedagogical practices at schools embody such political and ideological perspectives. Accordingly, as was discussed in Chapter 1, the English language curriculum as a sensitive topic is neither aimed at nor does it produce intercultural awareness (Dahmardeh, 2009; Davari

& Aghagolzadeh, 2015). As a consequence, foreign culture has no place in the Iranian EFL curriculum. Students (and teachers) are exposed to an Iranian ethnocentric English curriculum that gives priority to the Islamic-Iranian culture and disregards the systems of values or behaviours of English or the so called Western culture (Aliakbari, 2004; Dahmardeh, 2009). This was also the case in using ICTs for teaching English by participants. Some practical impacts of socio-cultural norms on participants' practices were presented in Chapter 4. As can be seen, schools had adopted some regulations based on the general political, socio-cultural and religious beliefs and ideology that binds teachers and students' ICT use. Nevertheless, the constraints were not limited to top down mandates as some schools imposed additional restrictive rules for teaching materials and for ICT use in response to their specific settings and the communities' beliefs. Still another problem that teachers confronted was that generally parents and families were conservative about their children's technology use. In almost all cases, schools and teachers avoided confronting irate parents from conservative families by not assigning students to do online tasks or exercises. Thus, teachers made different associations between technology and pedagogy according both to their understanding of the institutional norms and regulations and their own beliefs and ideology in terms of the selected tools, materials and pedagogical practices. And the tension was that they desired to

exploit technology effectively and make the change possible, but these ideas just did not mesh with what they had been conditioned to believe about technological media, especially in the absence of the appropriate authorized digital materials for their specific purposes.

So far, a critical discussion of the findings in light of the existing literature was presented. In the two following sections, I will discuss how these findings contribute to the research, theory, policy and practice.

5. 3. Contributions and the theoretical implications

Focusing on the perceptions of nine EFL teachers' perspectives to ICT in relation to their practices in Iranian schools, this qualitative research can contribute to the empirical research on the topic, because to the researchers' knowledge it is the first qualitative study of this topic in the context of Iranian high schools. Although this was a small-scale study, and results cannot be generalised, it can be said that it provided sufficiently detailed and in-depth data to permit interpretations on the topic.

The current study was built on the valuable findings of previous research on similar topics in the context of Iranian schools and elsewhere. However, although there is substantial literature on the topic worldwide, while there exist commonalities, due to the heterogeneity of the conditions in which teachers across the world practice, some of the findings of the previous studies elsewhere on the topic could not apply to the specific socio-cultural context in which Iranian teachers live and act. For example, of concern to participants in Iranian capital city of Tehran, were categories including Islamic identity and the socio-cultural and political factors as well as pedagogical cultures and policies that were

not necessarily relevant or even recognized in Western cultures or even in some other Islamic cultures.

Furthermore, the topic in the context of Iranian schools is poorly explored and many areas remained undetected. In this regard, this study attempted to address and provide a better insight into the integration of technology in schools.

Through the use of a multiple-case study approach, I followed teachers in their everyday real classroom life, listened to their stories, and asked them questions about their experiences, challenges and obstacles, and expectations. Data from this multiple-case study tended to address the limitations of the previous large-scale surveys and single-case studies by providing sufficient breadth and depth to allow understand teachers' ICT use, and key influencing factors in the context of their practice. As was explained in more detail earlier in this chapter and the preceding chapters, this qualitative study was grounded on activity theory in seeking a clear understanding of EFL teachers' ICT-mediated EFL instruction and issues surrounding this activity from their own perspectives.

Kern (2006) cautioned against a reductionist view to investigating the application of technology in teaching-learning processes that leads to a simplistic cause and effect formula that is limited to the relationship between technology use and learning, while arguing that the new trend in

research requires us to look behind the actual conditions of the individual participants and the interplay of various elements including, curriculum and the materials, technological resources, pedagogical approaches, and the specific socio-cultural contexts of learning.

Kern's caution and suggestions apply well to the findings of this study. In similar vein, as noted in length in Chapter 2, the vision that has emerged based on the socio-cultural historical activity theory as a mental and social theory (Lantolf, 2005) highlights the influential role of socio-cultural, contextual and situational factors in shaping perceptions, subjective feelings, goals and purpose of human actions. As such, in looking into teachers' perspectives and practices about technology use, teachers' perceptions and perspectives about the potentials of technology were elicited in a naturalistic way in relation to their own particular classroom settings and conditions, but also in relation to the broader and wider socio-cultural environment, people, tools and the systems.

Grounded in socio-cultural activity theory, this small-scale classroom-based case study research obtained and analysed rich and detailed data based on a theoretical approach that combined activity theory and theoretical perspectives of TPACK and Fullan's perspectives on change. As can be seen from the preceding chapters, and has been highlighted in this chapter, the results of this research draw attention to the importance of understanding the complex social, political, cultural,

educational, and institutional factors behind teachers' perspectives and practices, and in reference to these socio-cultural, institutional, historical factors discussed and explained how teachers' perspectives and practices have been influenced and shaped.

I argue that the current study has some advantages over prior qualitative or quantitative studies focusing on the integration of ICT in EFL classrooms in several important respects. A primary issue with the majority of research on the topic concerns the epistemological, theoretical and methodological perspectives that they employed to examine the phenomenon. Most of these studies are large-scale questionnaire-based surveys. Studies of this nature can provide some basic information such as the demographics of the sample, and provide the researcher with limited attitudinal information such as how teachers generally valued ICT, and based on a Likert scale, give very limited information about the degree of technology use and the ways they are used. But the depth of the attitudinal information and the nature of teacher's practices could not be obtained. Almost all studies in the context of Iranian schools and many other worldwide reported that teachers were positive and highly enthusiastic about the incorporation of ICTs, but that their technology application was limited. In most previous research in Iran or elsewhere data was provided based on questionnaires or teachers' comments in one-off individual or focus group interviews

about how they perceived ICT and their practices. Few researchers would consider these comments in reference to their actual classroom practices, and they do not provide rich and detailed information concerning the diversity of views on particular devices, in reference to their actual application. Nor do they explain teachers' perspectives and practices in relation to the specific political, social, economic, institutional and cultural context of practice.

Another important issue concerning the literature is that most of these studies assess only two or three variables or factors and focus on the demographic information of teachers to explain the phenomenon in terms of individual characteristics of teachers such as age, gender, and experience or knowledge, then simply discuss them in terms of 'cause and effect' in their interpretations. Especially included in this range are Iranian studies that blamed lack of access to technological equipment and lack of ICT training for limited use of technology in instructions. But while these may be true, these are just few aspects of the issue. For example almost all schools in the current study had somewhat atypical access to educational technologies in schools, and teachers declared that they had relative ICT skills, and that they were implementing technology in their teaching. However, findings indicated that despite the greater access to technology and the superior institutional supports, their use of ICT was limited and did not seem to be in effective and innovative ways.

On the surface most teachers held positive attitudes to ICT in general, but over the course of observation-based continual interviews that were conducted in reference to their actual classroom practices and their specific institutional and contextual conditions, other levels of their thoughts became apparent, and several tensions beneath the surface bubbled up.

Continual observations followed by in-depth interviews used in the current study to discover complex interactions in natural social settings were fundamental instruments that played important roles in this study, eliciting a large amount of information that could not be uncovered otherwise.

5. 4. Implications for policy and practice

The desire to change the EFL pedagogical practices in formal education to develop learning has provided the motive and support for this research. The practical values of the findings of the current study relates to its theoretical contributions. One benefit of this study is its contribution to a better understanding of the use of ICT in EFL practices of a group of Iranian EFL teachers and issues surrounding it. This has led to the identification and description of key barriers to change. With its focus on the 'how' of ICT integration and teachers as 'change agents' and issues related to them, this study can provide Iranian policy makers

with useful information about the challenges that teachers face in the implementation of ICT in EFL pedagogy; accordingly it has shed some light on deficiencies in the system and changes that the system at various levels requires. As such, there is some hope and expectation that the suggestions and insights from this research be taken into account by educational leaders to provide a supporting system to facilitate these changes. In addition, it can add to relevant knowledge in the daunting task of integrating ICT that in turn can lead to improvements in EFL education that may be of potential benefit to the stakeholders and the society.

The teachers and educational policy makers are aware of the importance of the educational technologies for the future success of education. This was apparent from participating teachers' expressed positive attitudes, the national educational documents that were reviewed for this study, and the evidence from the literature.

But although ICT has benefits and the potential to improve pedagogy, ICT alone cannot be a panacea for the current problematic EFL education in Iran. One of the biggest issues that has been highly stressed in literature (Dahmardeh, 2009; Riazi & Mosalanejad, 2010) is that irrespective of the presence or absence of technology, EFL education in Iranian schools lacks effective pedagogies to enable students to communicate. In fact, beyond ICT itself, formal EFL

education in Iran and schooling seem to have major structural issues, and might need to undergo dramatic structural changes. Change needs to be informed and framed by the empirical data. And educational policies should ultimately be implemented in the local context.

As such, with the assumption that ICT-integration in Iranian schools could not be understood without a clear understanding of the socio-cultural and historical context of the EFL education and school systems in Iran, a brief description of the historical socio-cultural context that surrounds Iranian EFL education in schools was described and explained in Chapter 1. From this macro-sociological perspective, a brief analysis of the Iranian National Curriculum Document (2013) and related documents and what they seek to accomplish concerning the EFL education was presented, so as to provide a greater understanding of the pedagogical practices in relation to the entire education system.

At the macro level, Iranian educational decision makers have defined and redefined new goals in the last decades, and in this respect, several reforms have been designed and implemented in the system including EFL education in Iran. But it seems that many of the on-going reforms are unlikely to bring about improvements in pedagogy and curriculum to enhance teaching and learning. What remains is a highly centralized system, dependent on a central authority to define the rules and to solve all problems in the name of formal equality. The unsolved

problem of curricula content, structure, delivery, assessment, the financial issues and the social and political environment that does not seem to be providing the optimal support for the effective ICT mediated EFL, renders the system ineffective.

A notable reform was created in line with the Islamisation efforts of the society and shifting the views and emphasis from the western towards an Islamic education. This was shortly after the Islamic revolution in 1979. Paivandi (2012) has challenged the educational reform movement and the outcome:

> *Three decades after ... [Islamisation] reforms, the Iranian educational system became atypical when compared to other educational models. We cannot describe this system within the usual framework of modern or traditional; it is an unusual educational system that has passed through a process of de-modernisation* (p. 1).

All other efforts that aimed at creating change in the Iranian education system to enhance learning have not worked, and observable and effective change has not happened. The goals and policies have always remained obscure. The reason for this seems to lie in the vision and the perception of the language they insisted to call 'the aliens' language'.

Textbooks were unchanged for around two decades at the time of the study. This supports Azizifar, Koosha, and Lotfi (2010) who examined two series of high school English textbooks taught from 1965 to 2010, and suggested that changes implemented over the 55 years (more than a century) had not been significant.

In the Iranian National Curriculum Document (2013, p.108) it has been claimed that the approach underlying the foreign language teaching and material development in Iranian schools is a self-regulating and communicative approach to foreign language teaching. However, in fact, the textbook driven curriculum in Iran has long been typically in favour of the centrality of grammar and vocabulary, and has been taught in line with a teacher-centered 19th century delivery (Azizifar et al., 2010; Dahmardeh, 2009; Jahangard, 2007; Kiany, Mahdavy, et al., 2011; Razmjoo, 2007; Riazi & Mosalanejad, 2010). This was one of the big issues that had a great impact on teachers' views of technology in their own classroom use.

Data from this study that was carried out in 2013 added a qualitative perspective in the context of policy and practice by identifying several key barriers to change. Based on the findings of this study and the literature that was critically reviewed, it is suggested that none of the following:

- the mandated EFL curriculum,

- the examination and the evaluation system,
- the available resources and schools' infrastructure,
- professional capabilities of individual teachers including knowledge and skills required to implement effective practices,
- teachers' intention and motivation to implement effective practices,
- students' knowledge and skill to implement technology for learning,
- training programmes,
- the school leadership belief about the values of the implementation of technology,
- the social and political environment,
- and the rules and regulations,

is able to provide desirable support for the integration of ICT in the EFL teaching- learning practices in the context of study.

The education system and schools are looking for solutions to improve the current situation. The disappointment with and the uproar over issues related to English language curriculum, textbooks, and pedagogical standards led to the publication of a new series of EFL textbooks in the form of teaching learning packages that were put in practice in the 2014 school year. Textbooks reportedly have been designed based on a communicative view of language teaching. While

this can be viewed as a step forward, and the new textbooks are expected to bring a change, there is no evidence to assess their impact. It seems unlikely that a mere textbook change can act as a panacea for the extensive problems of EFL education in schools. For instance, with the limited time allocated to English at schools, and in the absence of technology that can be used to overcome classroom limited time for interaction, and the old system of assessment and instruction that has been in practice for over two decades and with which teachers are comfortable, it is not clear how real communication will be practised in schools.

Based on evidence from the current study, as was discussed earlier, a few schools introduced extra material such as Top Notch book series side by side with the old textbooks to address the insufficiency of the mandated material. These schools even allocated more time to EFL classes. But despite such efforts, as data suggested, teachers continued to adhere to the same teacher-centred textbook-driven curriculum, followed the same methodology, and did not incorporate the range of technological resources that were available to them.

I do not claim that the findings of this small-scale study can answer all questions or solve all problems concerning the ICT use in EFL instruction in Iranian schools. But building upon the evidence reviewed in this study and based on findings of the study, I sought to depict a

realistic image of the ICT mediated practices of a group of Iranian EFL teachers by illustrating what their classrooms looked like and what the challenges or opportunities were, and to draw some implications for policy and practice.

As outlined above, the findings of the current study shed some light on a number of contradictions within the centralized system of the formal EFL education that were viewed by participants as important sources of problems, heightened by the introduction of technology in schools.

Decision makers may wish to give consideration to the range of the multi-layered contradictions that were identified in this study as sources of innovation to develop support and to design the innovative change. Expansive transformation demands resolving these contradictions and tensions, and resolving the tensions demands members of the activity system come together, question the tensions, negotiate and reconceptualise the object and the motive, and collectively transform the activity.

While consultation with all stakeholders seems to be important, given the pivotal role of teachers in the system, policy makers may specifically give them agency. In so doing, they may pay attention to and seek their participation, value their collaboration and cooperation, and appreciate their voice when designing the change.

In addition to uncovering some of the important challenges that teachers faced when implementing technology to enhance their EFL teaching, participants in this study offered some suggestions, as presented in Chapter 4. From findings of this research several implications for practice and policy concerning the ICT-mediated EFL pedagogy in Iranian schools are suggested that might benefit decision makers.

1. **Changing all dimensions of the teaching system including the assessment, curriculum and teaching methods**: Based on the findings and trends, it is suggested that developing a set of strategies and principles focusing on the three areas of assessment, curriculum and teaching methods may be considered.
    a. **Changing the system of assessment and setting higher standards**: As the findings of the current study and the literature suggest examinations were major drivers and determinants of the content and forms of classroom practices. Reform of the examination system with a focus on all dimensions of change and taking account of students needs is likely to impact the form and content of classroom instructions. An effective system of assessment can optimize the teaching and learning of higher order thinking

skills in classrooms.

b. **Changing the curriculum and textbooks:** Aligned to the assessments are the curriculum and textbooks. A fundamental obstacle to effective pedagogy and the integration of ICT, as suggested by teachers and the literature, was the EFL national curriculum. The expectation is that the new national teaching-learning materials had been designed and promoted with an eye to developing student's higher order thinking skills, problem solving, engagement, communication and collaboration. But local initiatives can also be allowed and supported to meet the students' diverse contexts and conditions. New textbooks can represent the content and the scope of the new curriculum, and be considered as helpful sources but not the only source that requires the teachers to teach the details of its content. Teachers may be permitted to promote desirable changes in material and classroom practices and innovation is supported.

c. **Changing instructional methods:** Teaching needs to be specified by the pedagogical objectives i.e. what the students are supposed to achieve rather than the content of the textbooks. In fact the material, assessment and teaching

methods should be aligned with the objectives. If the aim of teaching is to develop communicative skills, promote interaction and collaboration, and self-regulation, as has been spelled out in the national educational documents, these goals can be achieved by new pedagogies. Training teachers and providing them with models of good teaching practices supported by research, can facilitate the objectives.

2. **Providing support for schools community and families:** Given the important role of the school community and families in establishing supportive learning environments, putting policies into practice and achieving the learning goals, the education system can benefit from their engagement and active involvement in the processes of decision-making, planning and implementation of the activities. Facilitating the communication and collaboration with families and schools communities can give policy makers the chance to recognise the capacities, difficulties and challenges facing practitioners and parents. As may be understood from this study some of the challenges of participants included teachers' unpreparedness, their workload, restricting regulations, financial concerns, and parents' concerns, to name a few. Policy makers and the educational administrators may give attention to such

factors that contribute to teachers' difficulties and understand families' sensitivities and roles in students' learning and foster their participation. Clear definitions of goals, raising awareness and providing on-going support for activities at the school level, provision of learning resources, and encouraging and supporting innovation are some of the conditions that can engage teachers and parents and facilitate the achievement of objectives.

3. **Improving technological resources**: Based on reports from teachers providing multifunctional technological resources such as Interactive Whiteboards and video projectors in classrooms are important but effective management of resources is also vital to ensure that all teachers and students have appropriate access to designated technological resources, the equipment is well maintained, and technical supports and advice are available at all times. Schools can invest on hardware or software that can support the pedagogical needs and make them available to teachers and students. It seems equally important to ensure that teachers are aware of the range of ICT resources and supports available to them. Students' access to schools' digital technologies and developing their skills to use technologies for learning can also be considered.
4. **Improving CPD training programme**. The findings suggested

that teachers' professional developments involving ICT had been inadequate and uncovered several important issues. The absence of a link between subject matter, technology and pedagogy had rendered the CPD programmes ineffective. It might be suggested that to help teachers develop their skills and exploit technology to transform teaching and engage students in teaching learning activities CPD programmes need to be based on effective conceptual foundations focusing on twenty-first century skills and provide teachers with exemplars and hands on experiences. With a view to improve CPD programmes, policy makers might pay more attention to the role of schools and involve teachers and head teachers in planning and implementation of CPD programmes that can respond to teachers' contextual needs. Especially, given the diversity of schools and their varied access to different technological resources, inclusion of need assessments in planning CPD programme can enable it to fit better into teachers' specific needs, conditions and work schedule. It seems also important that teachers themselves be proactive in developing their knowledge and skills.

Given the socio-cultural and political context behind EFL and ICT in Iran, there found to be forces that worked as barriers to creating or using authentic EFL materials and the integration of ICT in EFL.

Positive attitudes are needed towards the ICT mediated EFL programme to support all other efforts for a successful integration of ICT.

While Iranian policy makers view cultural awareness as an unintended side effect of foreign language learning (Kiany, Mahdavy, et al., 2011), elsewhere, it is taken into account actively as a necessary part of it, as language learning in communicative language teaching (CLT) approach is based on interaction and intersection of cultures (Magnan, 2008). For example, Americans believe, '*an important part of telling America's story is learning the stories of others'* (Rice, 2005). The U.S. World Readiness Standards (American Council on the Teaching of Foreign Languages, 2013) set five objectives for foreign language learning at K12 in the U.S.A., as 'five Cs of foreign language education':

'Communication: communicate effectively in more than one language

Cultures: interact with cultural competence and understanding

Connections: connect with other disciplines and acquire information

Comparisons: develop insight into the nature of language and culture

Communities: participate in multilingual communities at home and around the world'.

These standards were said set to pave the ground for implementation of a real communicative approach in foreign language teaching in America. The FLE objectives at macro level in japan (Qi, 2009) and the UK (Evans & Fisher, 2009) are much the same as Americans with promoting

positive attitudes to FLE with emphasis on cultural awareness for a meaningful communication.

The Iranian national documents for language education policy are concerned with strengthening its national language and culture across the globe (The Comprehensive Plan for Science, 2011, p. 6) and having an active and inspiring interaction with the global environment and the processes of science (ibid, p. 4). To achieve such objectives more realistically, according to Kiany, et al. (2011), Iran needs clearer and more effective FLE policy and practice to provide learners with ability to communicate with other nations through English as an international medium with an appropriate level of 'perception, production, and awareness' (p. 59). The literature that was reviewed and findings of this study suggest that this can be facilitated by technology implementation that fits Iranian students' needs. Decision makers and designers may ask themselves how they can develop ICT mediated EFL education that can consider and meet students' 21st century needs.

The strengths of the current qualitative multiple-case study and the implications were presented in previous sections. It is time to discuss the potentially important challenges and limitations of the study in the context of this research project and their possible impacts on the findings and interpretations. I believe that this can benefit the research community as it can inform the research especially in the context of this

study, and the other readers as it can inform the implications of the limitations on the interpretations. Thus, in the next section a brief overview of the challenges and limitations that I perceived as important will be presented. These include the aspects of the design of the study and its implementation. The discussion will begin with the description of the setting of the study and the influencing factors that might be specific to this context.

5. 5. Description of the challenges and limitations of the current study

As mentioned earlier, the method of data collection in this multiple case study was a series of face-to-face individual semi-structured interviews informed by observations. As a qualitative researcher I had the opportunity to have a close look at teachers' actual classroom practices and their lived experiences to better understand various dimensions of the phenomenon and the complex relationships in their activity systems. This qualitative multiple-case research was time consuming especially given the limitations and challenges that I encountered including recruiting participants, approaching schools, collecting and handling the huge amount of data, the analysis of the obtained data, and reporting the results.

5.5.1 Challenges concerning participant recruitment

The first difficulty I experienced was recruiting the sample and getting access to schools. Before going back to Iran to undertake data collection, I thought I could be easily linked to teachers via friends and the relationships that I had. But after having several contacts, I found not only that many schools did not have technological conditions to participate in this research, but also current policies did not allow outsiders to get into schools and conduct qualitative research. Conducting a questionnaire survey could have been possible, as questionnaires could have been passed on to teachers through receptionists or school staff, and collected in the same way. But for this research project, I had planned to do a qualitative study that required entering the physical space of schools, observation of the schools technological properties, continual observation of real classroom practices and interview sessions, and this was not possible without formal permission from authorities.

It took around one month from the time I arrived in Tehran to actually being let into classrooms. But, prior to visiting schools and recruiting participants, I needed to have an official permit issued by Tehran Department of Education. There, I found that if I was a PhD student studying in domestic universities, the research office of Tehran

Department of Education could issue consent. But, as I was studying abroad, I was required to go back and forth in person between the Iranian Ministry of Education, Ministry of Higher Education, and Tehran Department of Education. This procedure took more than two weeks because as a studying-abroad-student, my research seemed problematic. I was studying in the UK, and given the historical diplomatic tensions between the two countries that had been fuelled by the 2011 political events resulting in closure of embassies, my case seemed to them to have potential risks to national security. First of all, as required by the security office in Tehran department of education, my identity needed to be certified by the ministry of higher education where they keep records of studying abroad students. Once this was fulfilled, I was required to visit the higher security officials in the ministry and explain to them the purpose of the study, procedures, duration of the study, the number of participants involved, and I was required to submit my questionnaire. I explained that I did not have a questionnaire because I was planning to conduct a qualitative research for which my data would be obtained through observation-based semi-structured interviews. Then I translated into Farsi a series of questions that were actually going to serve as the basis of the interviews in order for them to ensure they understood what the research study was about. In addition to the interview questions, a letter from my supervisor was also required. After they received all these

documents, I was told that in compliance with the information security policies, the case needed to be decided by a senior security officer in Ministry of education, and if they decide to give the permission, it would be sent to the Tehran Department of Education. After a few days I collected a signed-out and stamped formal consent (See Appendix D).

After passing the security checks, and having the consent letter from the Department of Education in my hand, still further administrative works needed to be done and I had to take this official letter to the regional departments of education. Each regional department of education supervised a number of schools that were located in their district. The regional/district departments that I visited provided me with consent letters. Interestingly, along with the formal permission letters, they provided me with a list of all the schools included in their region, and advised me on and ticked the name of schools that had 'optimal' ICT conditions. The permission letters and the lists actually not only made my access to schools possible, but facilitated my visits to almost all schools as principals became less strict regarding my access to their schools and teachers.

I visited schools in person, talked with school leaders and presented myself and explained my research to them in what I hoped was a trust-inspiring way. I answered the leaders' and teachers' questions openly and honestly and provided any information about the research and its

procedure that they asked about. Consequently, the required rapport and trust was established, and they willingly indicated the appropriate dates and time for classroom observation and interviews.

Nevertheless, due to the disparity of schools that were included in this study, access to some schools was actually very difficult. In the process of finding participants for this study, overall I visited around 12 schools that were suggested by regional departments of education as having appropriate ICT conditions. Access to one of these schools that seemed to be highly digitised and modern was not ultimately possible, and in some other schools, despite reported availability of ICT tools in these schools, teachers reported they were not incorporating any ICT device in their teaching. Thus, they could not be included due to the specific inclusion criteria of the study. And few others were simply not willing to be observed and interviewed.

I did not actually view such challenges as serious problems that could frustrate or stop me. I rather viewed them as a part of qualitative research that could help better understand the context in which my project was taking place. However, given the limited time and resources available for this research, the above-mentioned challenges and constraints impacted the project timetable. They might also have resulted in selection bias, and probably affected the results. But one important

limitation to sampling was related to the school curriculum that will be discussed in the next section.

5.5.2 Limitations of sampling related to the school curriculum

As was explained in Chapter 1, Iranian schools at the high school level generally consist of grade 1-4 with the fourth grade being considered as pre-university level. Another limitation concerning sampling was that EFL teachers at all four levels were invited to participate in the study. But all fourth grader EFL teachers whom I visited refused to participate, saying that the fourth graders' immediate need was preparation for the nationwide university entrance exam, called the Concour, and the pressure that they felt and the shortage of time did not allow them to use any ICT device. For this purpose, they reported that they merely had to stick to the mandated textbook and test books that were available to them. For this reason, they could not be considered as suitable candidates. As a result, participants were high school EFL teachers teaching grades1-3 in a diverse set of schools.

5.5.3 Limitations concerning the design of the study

It is important to note that despite the above-mentioned limitations, the number of cases was two more than the sample size that I had initially

anticipated and planned for. The overall sample size was a convenience sampling of 9 practising EFL teachers from across 6 schools in the capital city of Tehran. And participants were selected from different types of schools. Yet this was a relatively small sample that was purposively selected on the basis of participants' having access to and implementing ICT. A Convenience sample could not be considered as representative of the population. Each participant is a unique case reporting their own perspectives and experiences in their own specific context. Accordingly, the generalizability of the results could be limited. This means that the results of this small-scale study might not be applicable to the entire population. Nevertheless, generalizability was not a primary concern in this qualitative research as the main purpose of the study was to collect detailed and rich information to depict the complexities of the phenomenon and to enhance our understanding of the subjective experiences of a group of Iranian EFL teachers who make use of ICT and bridge the gap of knowledge on the topic. Given the qualitative nature of the research, and the method of data collection, the sample was planned to be small.

Perhaps the most notable limitation of the study was that the findings, analysis, and interpretations were based on information collected from a limited number of teachers across a limited number of schools. While the role of teachers has been highlighted as crucial in the

literature, information from other actors in the activity system is also important to provide a thorough picture and improve our understanding of the phenomenon. Nevertheless, it could be said that in-depth exploration of information from all members of the community, including students, parents, school leaders, technology staff, and officials required greater investment of time and other resources, and this in fact may not be possible in one study.

The last major limitation concerning the design of the study was the subjectivity of the analysis and interpretations in the qualitative research. Needless to say, throughout the processes of this research, I tried to take a neutral stance and implement certain strategies to keep in check my personal perspectives, beliefs, values, feelings, desires, and interpretative biases to the greatest degree possible and to establish trustworthiness, as was discussed in Chapter 3. However, due to the epistemological assumptions underlying this interpretative research, my active presence and potential influence in the discovery, and identification of the subjective meanings that participants attached to the social reality under study cannot be denied.

CHAPTER 6. Conclusion

This dissertation is concluded in this chapter. The current chapter will provide an overview of the research and the implications embedded in the brief discussion of the results in the context of the research questions, and then, potentials for future research will be presented.

6. 1. A summary of the research and the implications

Given the heterogeneity of the conditions in which EFL teachers across the world act, the messy contradictory results of the previous research worldwide, and a gap of qualitative research on the topic, the current study set out to explore the views of a group of Iranian teachers about the complexities of the integration of ICT in relation to their actual classroom practices.

This study started with a main and three subsidiary questions about the integration of ICT in schools from the perspectives of a group of Iranian EFL teachers. The main objective of data collection and analysis in this research, as with all research was to answer the research questions (Braun and Clarke, 2012). In so doing, underpinned by a socio-cultural

epistemology and utilising an interpretivist qualitative paradigm, this multiple-case study was designed to explore participants' perspectives on the integration of ICT (information and communication technology) tools in relation to their teaching and the challenges they encounter in their ICT use. The focus was on the individual and contextual factors, which had influenced and shaped the perceptions and practices of a group of Iranian EFL teachers.

The study involved Iranian EFL teachers who were currently implementing technology in their classroom and who were teaching in relatively technology-rich schools. This sampling was selected to reduce the effects of inhibiting factors to technology use such as lack of access to technological resources, institutional support, and teacher' factors such as attitudes, experience and comfort with technology. To explore teachers' classroom ICT-mediated practices and to make sense of teachers' cognitions that informed their classroom practices, the main method for data collection was a series of individual semi-structured interviews following and led by a series of observations of teachers' practices in their classrooms. The continual interviews guided by observations and triangulated with the analysis of the national educational documents provided me with access to primary sources and huge amounts of information and different points of view. This gave me the opportunity to notice issues and ask questions that was impossible to

ask in the limited world of paper or by merely self-report one-off interviews.

Informed by activity theory as a useful theoretical lens, with its fundamental concepts and principles including subjects, collective objects, collective activity, mediation, development and historicity the complexities of the integration of technologies by the participants were examined. This study took a close look at the implementation of ICT by these Iranian EFL teachers in the context of six Iranian schools and explored and identified a number of tensions and contradictions (latent or manifest) arouse from the introduction of ICTs within the local organisational context of practices and also reflected higher-level contradictions within the larger social context. This investigation included what the ICT-mediated foreign language teaching meant to teachers, how they implemented it, factors that play key roles in determining the current applications of technology by participants, and how they responded to contradictions. Engeström (1987; 1999; 2009) argued that the identification of contradictions within and between activity systems provides the potential for growth and contributes to organizational change if they are appropriately resolved. In this line, several challenges as well as opportunities for future development of the ICT mediated foreign language teaching in Iranian schools with their implications for policy and practice were presented and discussed.

Here I recapitulate major findings from this multiple case study that focused on learning about:

- the quality and quantity of the implementation of technology in teaching practices
- EFL teachers' views to technology
- and the impact of influencing factors in their contexts of practice

In answering the main research question that sought to find how teachers' perceptions of technology relate to their classroom practices, a sub question was posed to uncover the actual classroom practices that were mediated by ICTs and to provide insight into what teachers actually do when they say they implement technology in their EFL teaching. I investigated and examined teachers' practices in light of an ICT-mediated communicative language teaching approach grounded in activity theory that views technology as a medium in teaching learning processes.

6.1.1 Teachers' perceptions of their ICT mediated instruction

Findings indicated that participants' ICT use was minimal and not used in what seemed effective or innovative ways to support a student-centred pedagogy promoting self-regulation and developing higher order

thinking skills. With the assumption that teachers' cognitions can determine their practices I explored participants' perspectives on the integration of technological tools into their teaching and the challenges they encountered.

6.1.2 Teachers' perceptions of technology

Data from this study provided deep insight into teachers' perceptions about the values of technology and its pedagogical impacts. As was clear, there were contradiction in teachers' overall perceived technology values for EFL learning, and their view of ICT use for their own classrooms and practices. As mentioned in previous chapters, while there were various positive and negative comments about the benefits of ICT use in EFL pedagogy, participating teachers generally reported that they viewed technology as a powerful teaching/learning tool that could contribute to pedagogical practices in foreign language classrooms, and the use of technology could promote students' motivation, provide exposure to authentic language input, and facilitate communication between teachers and students. At the beginning it seemed that teachers were highly motivated to implement ICTs and the only issue seemed to be the lack of basic needs including access to ICTs.

Using activity theory as a useful theoretical lens to investigate ICT in the context of the practices of a group of Iranian EFL teachers, the

attitudes of teachers and the reasons for and the various factors that teachers perceived in relation to their practices were explored. This exploratory nature of the research and the methods of analysis provided the opportunity for respondents to communicate responses and perspectives that facilitated the emergence of potential factors, relationships and contradictions. It also helped me to identify contradictions in the way they talked about their experiences and their perceived issues.

During the course of interviews, at certain points, participants expressed different and inconsistent attitudes (positive, negative or neutral) towards the phenomenon rather than having a consistent single opinion. Accordingly, I came up with the assumption that teachers' perceptions about the ICT integration had mirrored their organisational and broader social contexts and the historicity of the situations; and the inconsistency of their attitudes recognised temporality and locality-historicity of the context and situations in which they had acted. At some points, some teachers even cast doubt on the benefits of the ICT for their EFL classroom. But their further comments and responses suggested that their 'current negative views' were a temporal perception resulting from the specific condition in which they had difficult access to ICTs and lack of knowledge to set up the device that at the time was insufficiently available to them, to name a few. However, their positive views about

their successful experience of technology use in the past were also a result of the supportive context in which they had been acting.

This finding can defend the ontological, epistemological and theoretical perspectives that underpin this study. A main assumption underlying this study is that social reality is dynamic and changing and subjective meaning also changes historically and temporally. Social reality here is the activity of the integration of ICT in EFL pedagogy, and in the logic of activity theory what makes this activity meaningful is that it is directed towards a collective object. As was discussed, activity is social/collective in nature. This implies the influence of social context on the individual subjects in which they are integrated. As argued by Engeström, (2009) teachers' perceptions and attitudes are difficult to explore and evaluate in isolation, and to provide insights about teachers' perceptions, researchers need to focus their efforts on understanding the conditions and factors that surround the individual in the triangle of the activity and beyond that. Such a perspective can provide an explanation as to what teachers (as subjects) actually do, their beliefs and values concerning technological artefacts, and EFL, and their roles in technology-mediated classrooms are situated within their social contexts and are formed based on their interaction with the tools and other people involved in their micro and macro activity systems and the social and cultural norms and institutional rules that govern those systems and

potential constraints that they impose on the system (Cresswell, 2013; Engeström, 2009).

In this complex system of interactions that connect the individual to the social structure, as Engeström (1999) and Kaptelinin and Nardi (2006) argue, activities, intentions, norms and cultures, rules and tools are not always static but they are subject to change. They argue that interactions need to be analysed against their history and in the context of their developments. Activity theory as was discussed in Chapter 3 takes into consideration this dynamic process of reality and considers activity as a changing process. In this view, the focus is on the interaction processes between individuals and their contexts of activity and the way they co-construct meanings and experiences overtime; and how the activity develops over time, and how the subjects internalise and externalise changes. This has important implications for change as this can explain teachers' behaviours and their resistance to change.

Such perspectives grounded and shaped the current study, and the findings of the current study reshaped and supported the theoretical perspectives. The data from this study suggested that teachers' understanding of technology use involves not only their personal beliefs about the advantages and usefulness of technology for language teaching but also their perceptions about external elements of the instructional context.

The third sub question explored factors that influenced participants' attitudes and their preferences for classroom technology use. It became evident that successful integration of ICT was not merely dependent on teachers' individual efforts and their personal characteristics, or on the mere availability of ICT tools. But a range of contextual factors were involved.

6.1.3 Teachers' perceived influencing factors

The data from the current study provided a deeper understanding of the interplay of the factors that play key roles in the integration of ICT by participants. Almost all these factors were examined in some depth earlier in previous chapters. In short, thematic analysis of the data suggested that the ICT mediated English language teaching was seriously hampered by several interacting and interrelated factors that influenced participants' perspectives and practices. These included inadequate technological infrastructures (in and out of school settings), poor or lack of immediate on-site technical support, teachers' insufficient expertise and self-efficacy related to technological pedagogical content knowledge (TPACK) as a result of inadequate continual professional development (CPD), the nature of the national curriculum, assessment standards, lack of effective goals with clear guidelines for technology use, shortage of time, rules and regulations,

and other human and contextual factors that were presented and discussed holistically as an activity system from the perspective of activity theory in the previous chapters.

One of the major contradictions emerged between documented objectives at the macro level, and what the curriculum implicitly or practically conveyed to teachers as goals in the target level (their immediate responsibilities). This apparently provided a gap between the intended and the implemented curriculum. Actually, the gap between the intended curriculum and the implemented curriculum is not specific to this study. The literature (Marzano, 2003; Westbrook et al., 2013) suggests that there is a discrepancy between the defined and intended goals of curriculum and the achievements in classrooms. Westbrook et al. (2013), based on a substantial literature review, argue that even well planned curricula with clear goals and much guidance on the content, have not always been successfully enacted as were intended and defined. But it seems that the pedagogical practices and the EFL curriculum and the assessment that were being used in Iranian schools (as suggested by previous studies and supported by findings of the current study) were actually in contrast to the rhetoric or aspirations of the curriculum designers as spelled out in the National Curriculum. A brief overview of the educational documents including the National curriculum (2013) suggests that the assumption behind the EFL pedagogy and the

curriculum is a communicative approach to language teaching. However, the content and structure of the curriculum and the assessments dictated extensive reliance on textbooks and teaching through structural methods. It could be argued, then, that the foreign language education system at school level suffers from a lack of clearly defined goals and a curriculum that can support these goals. The pedagogical goal at the macro level, as mentioned earlier, has been broadly defined as developing students' learning through communicative pedagogy and technology has been considered as a mediating tool that should contribute to this goal. But clear definitions and strategies have not been provided in the documents. This has led to a tension between teachers' perception of goals and policy makers' definition of goals, and the current curriculum fuels this.

In the circumstances, the teachers and the policy makers seem to work at cross-purposes. The reality of educational standards and the necessity of change were not clear for either teachers or schools. Moreover, they were not convinced that change is really needed. As long as teachers are not engaged, they do not efficiently work as change agents. Participants commented that if they are expected to implement a change, and work as change agents, what was needed was to have a crystal-clear definition of goals as what they exactly want them to achieve, defining teachers' new responsibilities, how to get there, and setting out the required conditions to achieve successful change.

In the same vein, one of the most difficult conundrums for the teachers was what effective technology-mediated EFL pedagogy should look like. The findings suggested that hardly any teachers in this research project were well prepared to use technology in their teaching. Most teachers reported that they had not received adequate and suitable trainings to enable them implement technology effectively and innovatively in pedagogy. The limited ICT-related trainings that they had received were narrowly focused on ICT literacy. Teachers needed support in learning the range of resources that were available to them i.e. technological knowledge, but more importantly, finding and implementing effective pedagogies seemed to be a big challenge for teachers. Effective technological pedagogy, therefore, seemed to be a missing link in the activity system.

Professional development and successful policies and plans cannot lead to the integration of ICT without access to adequate and efficiently managed technological resources. Providing teachers and students with convenient access to technological resources and immediate and effective technical supports across schools were considered to be important factors to ensure technology is used. This requires fund and vision. In so doing, all stakeholders including policy makers, managers, school leaders, teachers, students and parents need to realise the importance of the integration of technology in the curriculum, and

provide a supporting environment that can lead to the effective integration of ICT by teachers and students to enhance teaching learning opportunities.

Thus, it can be concluded that the integration of ICT into EFL pedagogy is a multi-faceted phenomenon perhaps demanding major transformation of the whole educational system toward changing all dimensions of the teaching system including curriculum and textbooks, teaching methods, assessment, understanding teachers' capacities and needs and providing them with cognitive, emotional, social and economic support. In so doing, teachers could be considered as active participants in decision-making and their voices heard.

In Chapter 5 some of the limitations of the current study were discussed. Future studies may overcome the limitations of this study and give consideration to the suggestions presented in the following section.

6. 2. Suggestions for future research

Although there has been much research done on the integration of ICT into education, much more needs to be conducted to uncover the challenges of the integration of ever increasing and changing technologies and to map the relationships between various factors at various levels especially in the context of EFL pedagogy in Iranian schools.

This study explored teachers' perspectives on the integration of technology in reference to their classroom practices. Qualitative data from this study suggested that a multitude of influencing factors with their complex and dynamic relationships involved in teachers' classroom practices. Although in this project attempts were made to provide a comprehensive and thorough picture of the integration of ICT in participating schools, because the integration of technology in pedagogy has other dimensions in addition to teachers, it may be said that some components are missing to complete the picture. Further research is needed to explore teachers' classroom practices by taking into account of the other factors in the micro and macro activity systems. For example, one of the important components of the activity system is school management that this project did not cover and about which less evidence in the context of the Iranian schools is available. Investigations into the topic from the perspectives of administrators and attempts made to tell their stories about the current situation, challenges and possibilities they encounter whether in their minimal activity system or from the broader macro levels. Also, an understanding of the phenomenon may be enhanced by further research focused on students' social, economic and cultural backgrounds and their access to technology at home, and their technological skill in relation to pedagogy in detail. In addition, the effectiveness of pedagogical strategies

mediated by technology from the perspectives of students can shed further light on the phenomenon. In order to evaluate the relevance of practices, longitudinal studies focused on both processes and outcomes of learning can explore the impact of ICT over a longer time and help to understand what works and what does not. As ICT has been recently introduced in schools and most teachers had just started to experience ICT use in classroom, without concrete examples of effective pedagogies, teachers might find it difficult to implement technology to mediate their pedagogies. Thus, collecting effective technology-mediated pedagogical examples can provide teachers with effective tools to help change their pedagogic cultures and practices.

With or without technology, it seems there is a gap of research focusing on the teachers' actual classroom practices. Studies using a qualitative or mixed method approach exploring the relationships and interactions between textbooks and teachers' pedagogies can fill this gap. Also, longitudinal studies can look into how the curriculum, pedagogies and assessments in practice relate to students' learning and evaluate the effectiveness of the EFL programme in Iranian schools in reference to students' achievements based on their English communicative skills rather than their marks on the textbook driven exams. This is of importance as most research on EFL in Iranian schools profoundly highlights the inadequacy of the EFL programme in Iranian

schools and calls into question students' proficiency with empirical evidence.

Finally, one of the main findings of this study was the impact of the specific socio-cultural values and political considerations on the activity that implies that it is not enough to explore the educational phenomenon without regard to temporal and historical socio-cultural political context and the relationships and processes. Further research can shed light on this contradiction based on the subjective experiences of teachers and other stakeholders.

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Appendices

Appendix A: Ethical Approval From

THE UNIVERSITY OF WARWICK
Institute of
EDUCATION

Application for Ethical Approval for Research Degrees
(MA by research, MPHIL/PhD, EdD)

Name of student Parivash Mozafari Goroorani	MA By Research		EdD		PhD

Project title
A multiple-Case Study on the Integration of ICT in the Teaching English as a Foreign Language in Iranian High Schools: Teachers' Perspectives

Supervisor

Professor David Wray

Funding Body (if relevant)

Please ensure you have read the Guidance for the Ethical Conduct of Research available in the handbook.

Methodology
Please outline the methodology e.g. observation, individual interviews, focus groups, group testing etc.
- Observation
- Individual interviews

- Document analysis

Participants

Please specify all participants in the research including ages of children and young people where appropriate. Also specify if any participants are vulnerable e.g. children; as a result of learning disability.

Participants are adults: teachers of English in Iranian high schools

Respect for participants' rights and dignity

How will the fundamental rights and dignity of participants be respected, e.g. confidentiality, respect of cultural and religious values?

I am Iranian and I am aware of participants' contextual socio-cultural and religious values. I will actively consult participants on their feelings about all aspects of this research including aims, questions, research design, methodology, data analysis and finding reports and publication. Obviously confidentiality will be both promised and fulfilled.

Privacy and confidentiality

How will confidentiality be assured? Please address all aspects of research including protection of data records, thesis, reports/papers that might arise from the study.

Data will be stored secretly on my computer (with a password). In quoting participants' statements careful attention will be paid to avoid participants being identified in any report or writing that arises from the research (individuals and organisations). To do so, I will use pseudonyms or codes instead of the real names of participants, their schools and even their district. Identifiers will be kept separately from the data and will be destroyed once the thesis has been finally completed.

Consent - will prior informed consent be obtained?

- from participants? Yes/No from others? Yes/No

- explain how this will be obtained. If prior informed consent is not to be obtained, give reason:

Participants and administrators of the schools that are considered for the study will be provided with clear, comprehensive, and accurate information including:

- the information emphasising that their participation is voluntary
- the information regarding the researcher and the university that supervise the study, and the contact information of the researcher
- the nature and objectives of the study
- the methods of data collection and procedures

- the role of the participants in the study, and what they will be asked to do
- the reason for selecting participants
- the potential risks (psychological, social, or physical) coming from the study
- what will happen to the findings (audio, video, and notes confidentiality, anonymity)
- how the data collected by the research will be used and published
- the rights of participants; as for example they will be informed that they can feel free to withdraw at any stage of the research

- will participants be explicitly informed of the student's status?

Competence

How will you ensure that all methods used are undertaken with the necessary competence?

I have completed research training courses of the University of Warwick, and of University of Leicester.

Protection of participants

How will participants' safety and well-being be safeguarded?

Physical, social and psychological well-being and safety of participants, their interests, sensitivities, privacy, and confidentiality and anonymity of their information have been considered in the design and conduct of the study. And certain procedures have been adopted to protect participants. In so doing, through an on-going negotiation and freely given Informed consent, participants will make informed choices about:

a. agreement or refusal to taking part

b. opting out at any stage

c. the extent to which and the ways in which the study intrude to ensure that the study will not come closer than what participants want.

d. determining the boundaries of confidentiality

e. rejection or acceptance of using certain data gathering tools such as photo/video camera and voice recorders, and the extent to which that the researcher is permitted to communicate those recorded films, pictures, voices and notes or transcripts to the audience. Also any sharing of the

material with other researchers or the future use of the material will be discussed and their rights and concerns will be considered.

In addition, the methods of data collection have been designed and will be operationalised to avoid stress and distress. Care will be taken not to engage in activities in a way that could place incidentally participants at risk.

And finally, for both double-checking the ethical concerns with participants and to ensure the trustworthiness (credibility) of the study, feedback in the form of the summary of the data will be sent to the participants for their commentary and, in certain cases, their alteration. Last but not least, the individuals and schools or other organisations involved will not be identified, the data will be stored securely and findings will be reported honestly.

Child protection

Will a CRB check be needed? Yes/No (If yes, please attach a copy.)

Addressing dilemmas

Even well planned research can produce ethical dilemmas. How will you address any ethical dilemmas that may arise in your research?

I will consult my supervisor and I will refer to ethical guidelines, and I will negotiate with participants to meet their interests and concerns in case of probable conflicts or harms should they occur.

Misuse of research

How will you seek to ensure that the research and the evidence resulting from it are not misused?

Attempts will be made to ensure that threats to the confidentiality and anonymity of research data are anticipated. The identities and research records of those participating in the research will be kept confidential whether or not an explicit pledge of confidentiality has been given. And discretion in the recording and communication of information, in order that the information not be misinterpreted or misused to the detriment of others will be made.

Support for research participants

What action is proposed if sensitive issues are raised or a participant becomes upset?

Although all measures will be done to avoid any potential harm, in case that any minimal harm may occur, I will act quickly to correct any resultant harm and this may involve withdrawing the participant from the study, based on negotiation with the participant him or herself.

Integrity

How will you ensure that your research and its reporting are honest, fair and respectful to others?

I will not engage in incomplete disclosure, or in temporarily leading research participants to believe that the research project or some aspect of it has a different purpose. And after data collection has concluded I will check the data with participants. And before publication or the final submission, I will submit my research, in some accurate form and within the limits of confidentiality, to persons with expertise in the research area including my supervisor, for their comments and evaluations, prior to publication or the preparation of any final report.

What agreement has been made for the attribution of authorship by yourself and your supervisor(s) of any reports or publications?

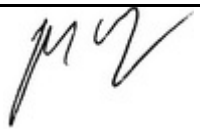
Joint authorship with supervisors' name second.

Other issues?

Please specify other issues not discussed above, if any, and how you will address them.

Signed

Research student Mozafari	Date 11/03/2013

Supervisor 	Date 3/9/13

Action

Please submit to the Research Office (Louisa Hopkins, room WE132)

Action taken

- [X] Approved
- [ ] Approved with modification or conditions – see below
- [ ] Action deferred. Please supply additional information or clarification – see below

Name Prof Geoff Lindsay	Date 1/10/13
Signature 	

Stamped

Notes of Action

Appendix B: Interview Questions

This appendix includes the list of questions that guided the interviews. The questions were based on the existing literature (Park & Son, 2009; Samuel & Abu Bakar, 2006, p. 6):

1. What technological tools do you use in your classroom and how do you apply them?
2. What do you think about the use of ICTs in the classroom?
3. What do you think are the advantages of using ICTs in the classroom? What do you think are disadvantages of using ICTs in the classroom?
4. Are there adequate infrastructure facilities in your school to support ICT mediated activities? If adequate, please mention the facilities. If inadequate, please mention facilities that are lacking.
5. If infrastructure facilities are improved would you carry out more ICT integrated activities?
6. Have you conducted ICT-mediated teaching practices before? If yes, mention the tools used and how you have used them.
7. Do you think ICT-mediated language teaching/learning can contribute to students' language development? If yes, how? If no, why not?

8. What factors do you think influence your use of ICT-mediated language teaching-learning activities? to what extent?
9. Have you attended any course about educational technology? Please give details. Do you think you have sufficient ICT skills to confidently carry out ICT mediated activities in your teaching practices in or out of classroom? If the answer is negative, please mention the skills that you need.
10. Are the school administration and/or the local district supportive in your endeavour to utilize and integrate ICT tools in teaching and learning activities?
11. What do you think about the future of integrating ICT in EFL teaching-learning activities?
12. Do you have any suggestions to make in relation to ICT-mediated language teaching practice?

Appendix C: Interview Sample

This appendix includes a translated version of the shortest interview that was conducted, as an example.

Q. Thanks again for giving your time and agreeing to participate in this study.
Could I ask you to introduce yourself including age and teaching experience, for the record, please? As I said earlier, the identity will be kept confidential.
OK, I am --- English teacher in this high school, --- High School in the ---region. I have 18 years of work experience of which over the past 4-5 years or so we have been using educational technologies in teaching in this manner as you have seen in this school. Uh, well, in other schools, you know our teaching aids are limited to chalk and board and we cannot do anything beyond that, but as this school is smart, there should be some ICT use.

Q. Your level of education?
I hold a bachelor's degree. Bachelor's in Teaching English.

Q. Could you please tell me about the technological infrastructure in this school? What technological tools are available to you, here, whether in computer rooms or in classrooms?
Yes, the only technological resource that is available to us is just the site and computers i.e. the computer room. But, well, indeed CDs have been provided by students or us. The fact is that the school provides us with

no educational CD, all they provide us with is the site and computers. The rest of necessary tools such as CDs have to be arranged by us.

Q. So you mean the projectors and screens are not available for use in classrooms?

They are not in the classroom. In this school that currently has twenty classrooms or so, only a couple of classrooms are equipped with video projectors. Moreover we have two computer rooms but in other classrooms we do not have technological equipment. If we want to use these tools we have to move our class to the computer room as I did.

Q. How many computers are available in each computer room? In addition to computers, what other facilities are available?

In the computer room, these computers that you are seeing now are available here, around 15-20 computers in each computer room and there is internet connectivity. I mean we can connect to the internet.

Q. So, you have access to internet, don't you?

Yes, yes, we have internet connection, but there are some restrictions, that you are aware of, if students can have access to its password, well, they will use it, and, they will use it inappropriately that is not accepted. Apart from that we can use the internet. Students can use it too to some extent. A number of students who have research tasks attend the site and use the internet. They get the password and use the internet.

Q. So, you have never got to use internet in computer site as part of your classroom teaching and connect student to internet

A. We can do that

Q. Have you ever done that?

No, I haven't. But we can

Q. Do you think that technological resources available in this school are adequate for your and the pupils' in or out of classroom teaching learning practices?

You know, if we compare this school with other schools, well it is much better resourced. I think you might be aware of this. But whether it is adequate, not really, because if all classrooms were digitally equipped, we didn't need to come and hold our classes here in the computer site. You know this room is a bit large and students get distracted. It would be much better if it was in the [regular] classroom. And, I think that this school's infrastructure is better than other schools, but well, it's still not enough.

Q. What else needs to be added? You stated that it is not adequate, what is missing?

Now, as you can see, the number of students is 35, but the number of computers is 15-20. If the number of computers was adequate, if the number of computers could adequately meet the learning needs of all students, if for instance we had a language lab, we have actually suggested the school principal to establish this, but they lack fund to provide it. Actually, if we had it, it could meet students' needs but we don't have it. Well, the existing equipment is still of some use. Still, it can be said that student in this school are ahead of students in other schools, to the effect that they get familiar with computers and their coming to the computer site help them figure out what to do, to the effect

that they are not limited to textbooks; they are provided with CDs and they create material on their own, which is advantageous.

Q. What are the advantages and benefits of having a language lab for your practices that you think it would be better if you could have access to it?

In a language lab, their speaking would improve to a great extent, meaning that we could read the same reading comprehension texts and they could listen to the questions, and answer the questions. That would be great, because I think one of the weakest areas in all four skills for students is speaking. If it was available it would be great.

Q. Do you think that under current conditions you are not provided with opportunities to do such activities or the existing infrastructure does not allow you to do that?

You know, the existing infrastructure may allow us, we can do some activities, but time does not allow us. What do you think I did today in around seventy or seventy five minutes here [in the computer room]? I just taught vocabulary and new words. My grammar instruction remained incomplete. I even have to repeat the vocabulary in classroom and teach synonyms and antonyms anew because the room was dark and students were not able to view [the screen] appropriately. Shortage of time does not allow us at all [to use technology]. We have only three hours a week for language instruction. It is nominally 3 hours, but in fact I think we actually have around 110 minutes language teaching. The book has 9 units each of which takes around one month for me to teach. Did you notice that I was still partway through Unit Two? If we are to use such [ICT] tools, it will extend this time to one month and a half.

Then we will have the [Iranian] New Year and summer holidays among others. We can't really; I mean shortage of time does not allow us.

Q. Do you teach only the Ministry mandated textbook or there are other materials along with it?

No, I use the _____ for the first graders. The school has actually mandated ____as complementary material. But, well, I don't use that. I have my own method. I used _____as I know what it is all about, and helps me to a great extent. With this book students are not required students to take notes as it includes everything they need. They don't need to take notes of grammatical points, do not need to write down synonyms and antonyms, don't need to write meanings. It helps them a lot.

Q. You said that there is shortage of equipment; if a number of facilities were available it would be better. If those equipment including a language lab become available,

[shortage] of time does not allow us.

Q. Again…

Again shortage of time.

Q. Apart from time, what other limitations you think may keep you from using the educational technologies?

To some extent the levels of students, hmm these gals some of them even do not have computers at home. They do not know what computer is what so ever. They don't really know. You know this school district is a strict where students are not from prosperous families. They are not well situated financially. Well, it is strange to them before they get

familiarised with computer and to see what they can do with it. Well, because they are not of the same computer competency level, it is difficult to familiarise all students with educational technologies. Then, this is why I think each classroom should be equipped with the [technological] tools, let say video projectors, smart boards, yes, a smart board in each classroom. I mean these should be available because the school is smart, but, well, these are not available.

Q. If these tools, as you said, smart board or I-board and the tools that you mentioned were available, what would happen? In what ways would you use them? Any particular way or change…
No, we wouldn't have any particular usage of it. We would use them the same way [as normal boards]. But, well, if the handwrite, … student might be unable to read teacher's handwriting, I don't know, this may speed up the work because of the possibility of fast-paced typing on the board.

Q. Do you think this improves students' learning, or it just facilitates teaching in terms of writing on the board? Can it enhance learning?
I don't think so. No, not in learning. All we can do with technology is that at most we add a bit of variation in our job. As I reflect on my experience, in a class with just the chalk and board I can more easily control children. In the end, we are doing the same; we don't do any extra thing with technology. [With technology use] student's learning could even be less. It can just provide variation, that's all.

Q. So in your view ICT can't foster learning.
The way we are using it, no. In our schools, no.

Q. Why?

I told you. If we had more time, if there were more resources, for instance if there were two teachers instead of one i.e. there was a teacher assistant, she could control the children. Now, all my attention was paid to the students who were sitting at the end of the classroom, to make sure they were sitting straight, were not sleeping, not speaking.

Q. Have you ever received training to learn how to use these technological tools to enhance teaching or learning?

No, there has been just a series of material development courses, Builder material development courses.

Q. What is that?

We just developed and continue to develop material to teach lessons exactly as you observed. We turn lessons into PowerPoint or Builder and students

Are taught via CDs. No, they haven't offered any particular courses, any particular training.

Q. So you mean there has been no teacher training opportunity, or you think they have been inadequate?

Well, when I was graduated from university in the year_____, we received teacher training courses, but…

Q. In university?

In university. But not in a way

Q. So, you have not received in-service training.

No, there has not been any in-service training.

Q. There was no training what so ever, or you did not attend?

No, I usually attend if there is any course; there has been no course at all.

Q. Ok, well, so in the circumstances, are you currently competent enough to use these tools? Have you received any formal or informal training elsewhere?

Unfortunately not. I have learned on my own because I had to learn. I mean I had to bring students to computer room and incorporate some technological tools, so I had to learn on my own. The only training that the ministry has ever provided was a computer course several years ago. At the time I had a young kid and was unable to attend the course. But even all the colleagues who attended the course have forgotten what they learned. None of us can remember what was the course all about. The ministry does not offer any training even to update teachers. In fact, there should be training annually so teachers' competence can be updated. But unfortunately there aren't any.

Q. So you mean the education department has not offered you any training support.

No support at all. If we ourselves are determined to further develop our competence, we should attend courses outside the system.

Q. And Self-financing?

Yes, we should bear the cost and time on our own.

Q. Are there any obligation or encouragement or any support by the ministry or the school in order to use ICT tools in your teaching?

Unfortunately not. At most we receive appreciation, certificate of appreciation. Not any particular thing.

Q. Ah, so, you receive appreciation for using ICT.

Yes, at the end of the year, they may appreciate us.

Q. Does this include financial reward?

No, it is just a piece of paper [laugh].

Q. But it has a merit.

It has no merit. It is just a compliment. With that piece of paper they only compliment our effort. That's all.

Q. Is that enough, you think, to encourage you to have more ICT use?

No, it's by no means enough.

Q. What should be done in order for you to get more motivated to use these tools or to attach more importance to them in your teaching? Do you think you need to change your views to understand their importance, or you need more learning support? Do you need any practical organisational support? What is needed?

I need both supports from the department of education and I can see noticeable differences. I mean I need to understand that after I spend a lot of time in training courses what would happen? What difference would be between someone who has not attended the courses and me? When I see there is actually no difference, when I see trained and untrained teachers in the same job position, which means we are not distinguished, thus, there would actually be no incentive. If the

department of education motivate us, if it offer assurances or promises to us, if there is a merit-based job promotion, for instance if they rank schools and send trained teachers to higher schools in the ranking system and untrained or least trained teachers to the lower ones, perhaps this could create incentive. But there are no such things. Now, I think this school is the best high school in the__region. But when I came to this school, I had not done any substantial performance to be entitled to come here. It just happened! In the former school, the shifts were changed from afternoon to morning, I could not work with the new shift schedule, so I went to the department of education and they sent me here. I mean I had no particular privilege over other teachers.

Q. Aha, well. You said that your view to ICT is not positive. Do you think it does not have any impact?

Yes, I think given the limitation of time and resources that we are faced with, and the lack of training, mm yes, we are not adequately trained to the effect that I myself get stuck at times. Children are much more competent than us. You know small children, my 10 year old daughter is much more competent than me in computer use. My technological competence is very limited.

I am not the only one; most of us have the same issue.

Q. What about home? Do you have home access to ICT? Do you use at home?

Yes, I have internet at home which I always use. Concerning the reading comprehension sections of textbook, I do a search about characters such as Friedrich Froebel, or lets say Charles Dickens print material and bring to classroom for students' use. Or students themselves may do this. Yes, internet and computer facilities are available at home.

Q. How often do use ICT in your classroom over a period of…is it a term based or year?

Year.

Q. OK, how often, or how many sessions a year?

Up to three times.

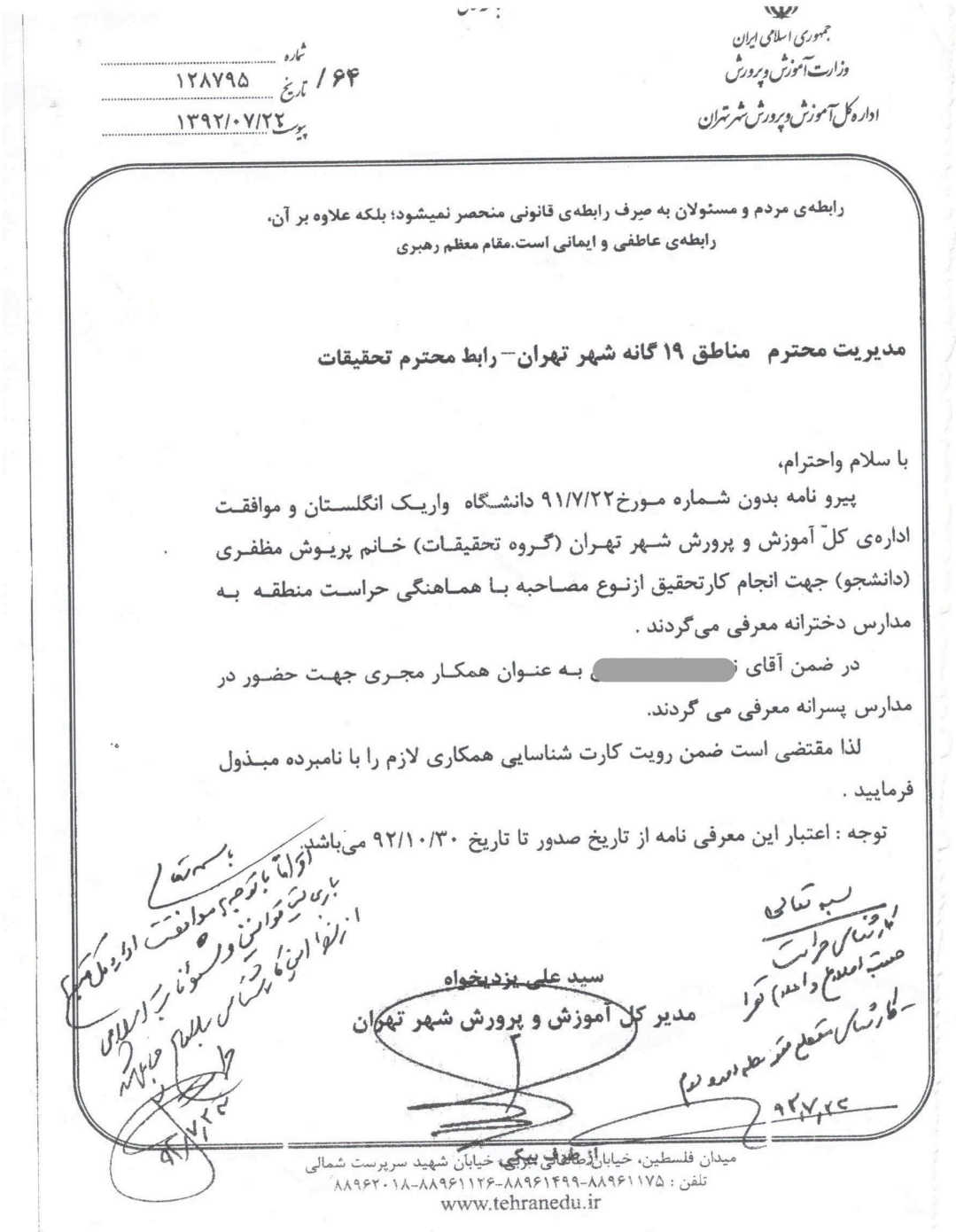
Q. Your classes are

Three hours a week, but we don't have enough time to always bring students to the computer room; a maximum of five times a year.

Thank you.

Appendix D: Formal Consent Letter

This appendix contains the consent letter from Tehran Department of Education



جمهوری اسلامی ایران
وزارت آموزش و پرورش
اداره کل آموزش و پرورش شهر تهران

شماره ۶۴/ ۱۲۸۷۹۵
تاریخ ۱۳۹۲/۰۷/۲۲
پیوست

رابطه‌ی مردم و مسئولان به صِرف رابطه‌ی قانونی منحصر نمیشود؛ بلکه علاوه بر آن،
رابطه‌ی عاطفی و ایمانی است.مقام معظم رهبری

مدیریت محترم مناطق ۱۹ گانه شهر تهران– رابط محترم تحقیقات

با سلام واحترام،

پیرو نامه بدون شماره مورخ۹۱/۷/۲۲ دانشگاه واریک انگلستان و موافقت اداره‌ی کلّ آموزش و پرورش شهر تهران (گروه تحقیقات) خانم پریوش مظفری (دانشجو) جهت انجام کارتحقیق ازنوع مصاحبه با هماهنگی حراست منطقه به مدارس دخترانه معرفی می‌گردند .

در ضمن آقای [redacted] به عنوان همکار مجری جهت حضور در مدارس پسرانه معرفی می گردند.

لذا مقتضی است ضمن رویت کارت شناسایی همکاری لازم را با نامبرده مبذول فرمایید .

توجه : اعتبار این معرفی نامه از تاریخ صدور تا تاریخ ۹۲/۱۰/۳۰ می‌باشد

سید علی یزدیخواه
مدیر کل آموزش و پرورش شهر تهران

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